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.....SPECIAL ISSUE.....

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Journal of Public Policy & Marketing

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International Issues in Marketing Law and Public Policy

Submission deadline: June 1, 1996

The reality of a global marketplace creates policy issues that cut across national borders. Marketers must be aware of and responsive to legal and policy issues much broader than those of importance in their domestic markets. The purpose of this special issue is to generate discussion of and research about legal and public policy issues relevant in international marketing. Papers that compare legal and/or policy standards across different countries are encouraged.

Topics might include:

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| ☐ Labor issues and the impact of international competitiveness | ☐ Patents, trademark protection, and intellectual property rights |
| ☐ Environmental quality and shared border issues | ☐ Technology diffusion versus appropriate technology |
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| ☐ EC legislation with respect to (small) retailers | ☐ Freedom of Contract Principles (E. Europe in particular, and LDC's generally) |
| ☐ Corruption in Eastern Europe and the Former Soviet Union | ☐ Cultural Imperialism |
| ☐ Hidden costs and benefits of marketization | ☐ Globalism versus localism in the international marketplace |
| ☐ Policies (e.g., state television programming) that affect ethnic versus national identity | ☐ Consumer resistance to globalism |
| ☐ Parallel importation (e.g., state television programming) that affects this | ☐ International tourism impacts on host cultures and policy that supports, discourages, and regulates international tourism |
| ☐ Joint ventures in the international environment | ☐ Conflict Resolution, Dispute Settlement, and Litigation |
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| ☐ Pharmaceutical marketing | |
| ☐ Product liability | |

Authors are strongly encouraged to submit manuscripts that contain sound conceptual frameworks and include public policy implications. Both conceptual and empirical papers are invited and diverse research methods are encouraged.

Five (5) copies of the manuscript should be submitted by June 1, 1996 to:

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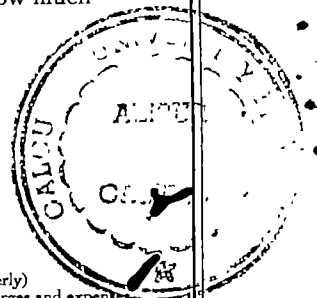
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Richard W. Pollay, S. Siddarth, Michael Siegel, Anne Haddix,
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The Last Straw? Cigarette Advertising and Realized Market Shares Among Youths and Adults, 1979-1993

The authors test the hypotheses that parameters of advertising sensitivity for adolescents are significant and perhaps larger than those for adults. Cigarette brand shares of advertising voice are found to be significantly related to realized market shares, with advertising sensitivity being about three times larger among teenagers than among adults. This result is robust to various analytic assumptions and converges with strategic analysis, consumer behavior theory and research, econometric metaanalyses, historical research, and corporate documents. The authors argue that cigarette competition between firms is predominated by the battle of brands for market share among the young, and assertions to the contrary, without supporting evidence, should be treated with scholarly skepticism.

Cigarette advertising has long been a subject of substantial academic, economic, and political interest. A fundamental concern has been the role of cigarette advertising in influencing cigarette primary demand (total consumption) and, particularly, the smoking behavior of children and adolescents. It is estimated that approximately one billion packs of cigarettes worth more than \$1 billion are consumed annually in the United States by minors less than 18 years of age (DiFranza and Tye 1990). The younger the age of sampling and uptake (i.e., regular smoking onset), the greater the likelihood of chronic use as adults (Chassin et al. 1990). The World Health Organization now estimates that, of adolescents who continue smoking throughout their lives, "half will be killed by tobacco ... we can expect 200 million to 300 million children and adolescents under 20 (world-wide) currently alive to eventually be killed by tobacco" (Voelker 1995, p. 203). Thus, smoking uptake by minors has been the subject of two recent book-length literature reviews by the U.S. Surgeon General (U.S. Department of Health and Human Services [hereafter USDHHS] 1994b) and the Institute of Medicine (Lynch and Bonnie 1994) and has been the motivator for recent initiatives of the

Food and Drug Administration describing nicotine addiction as a pediatric disease and nicotine as a design feature of cigarette products (Hwang, Freedman, and Frisby 1995; Kessler 1995a, b; Schwartz 1995).

Cigarette advertising attracts public and academic attention in part because there is so much of it. For 1993, total cigarette-industry advertising and promotional spending in the United States was over \$6 billion, and it is still growing (Hwang 1995). Nonetheless, advertising is not the only contentious element of the industry's marketing mix. Others have reported on product aspects, such as filter design and package labeling (Davis, Healy, and Hawk 1990; Gori 1990; Henningfield, Kozlowski, and Benowitz 1994); nicotine as a product design feature (Hilts and Collins 1995; Mahar 1994; Slade et al. 1995); product additives (Freedman 1995); and packaging graphics (Beede and Lawson 1992; Cunningham and Kyle 1995; Pollay 1994c). Other reports cover promotional aspects, such as advertising informativeness (Pollay 1991, 1993a), tar and nicotine data in advertising (Cohen 1995), targeting of minority groups (Blum 1989; Pollay, Lee, and Carter-Whitney 1992), sports sponsorship as access to television (Blum 1991; Ledwith 1984), and product placement in films (Bergman 1989; Hazan, Lipton, and Glantz 1994; Magnus 1985). Still others report on distributional aspects, such as sales of single cigarettes (Klonoff et al. 1994), unsupervised vending machines (Davis 1991), distribution near schools (Barovich et al. 1991), retail display advertising (Cummings, Sciandra, and Lawrence 1991; Hilts 1995; Kennedy 1970), and free product sampling (Davis and Jason 1988).

Of all the recent advertising events, probably none have provoked more comment and controversy than the "Smooth Character (Joe Camel)" campaign for R. J. Reynolds's

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Camel brand, and there are several reports that this cartoon character was widely recognized by young children (DiFranza et al. 1991; Fischer et al. 1991; Konrad 1991).¹ *Advertising Age* reported its own survey results, with Camel brand recall rates of 90% among children 8 to 13 years of age (Levin 1992). David Kessler (1995b, pp. 10–12), the Commissioner of the Food and Drug Administration, described the campaign as “irreverent, humorous and sophomoric” and reported that even the researcher hired by R. J. Reynolds found children to be as familiar with Joe Camel as with Ronald McDonald. That effort modified Fischer and colleagues’ (1991) procedures, yet it was still found that “Joe Camel had relatively high recognition compared to several trade characters,” because more than 50% of children 3 to 6 years of age correctly matched the Joe Camel trade character with cigarettes (Mizerski 1995, p. 66). Other researchers have reported even higher recognition rates of 86% for 8-year-old children (Henke 1994).

This has led to health advocates and even marketing professionals expressing a great deal of concern about the potential consequences of the Camel campaign, because young children are “neither legally capable of using nor fully able to understand the potential risks associated with the product’s use” (Mizerski 1995, p. 61). As one adman wrote: “Those of us in the marketing business know exactly what he’s up to; we should be the first to denounce him” (DesRoches 1994, p. 23). The standard response of the cigarette industry to concerns about children and cigarette advertising has been to insist that “kids just don’t pay attention to cigarette ads ... [our advertising] purpose is to get smokers of competitive products to switch ... [which is] virtually the only way a cigarette brand can meaningfully increase its business” (R. J. Reynolds 1984, p. 89). This position is uncritically echoed by others (e.g., Boddewyn 1986, 1989).

To explore the validity of this important assertion, our research focuses on interbrand competition, not starting behavior or aggregate smoking rates. We examine the market shares of various cigarette brands to discover the extent to which these are related to the relative intensities of previous and current advertising for these brands, “share of voice,” reasoning that “even in mature markets, relative advertising is important for gaining sales” (D’Souza and Rao 1995, p. 39). As the president of the American Association of Advertising Agencies, John O’Toole stated, “Share of voice ... almost always corresponds to share-of-market” (Harris 1991, p. 24).

Recent surveys have found that the brand choices of adolescent smokers were heavily concentrated on those brands with the largest advertising budgets (Centers for Disease Control and Prevention [hereafter CDC] 1992, 1994). To study this phenomenon in greater detail, we determine the relationship between share of advertising voice and brand share of sales with standard market share econometric methods and assumptions, such as the distributed lagged effects of advertising on sales. We study the interbrand competitive effects of cigarette advertising for the market as an

undifferentiated whole and with adolescents and adults as separated segments of the market.

Before presenting our research, we briefly review previous econometric studies while focusing on those reporting results from brand-level cigarette data. Next, we develop hypotheses and present both those inherent in industry assertions and alternative ones suggested by theoretical, strategic, and behavioral analyses, as well as by evidence from the tobacco trade itself. We then present our methods and results, which are followed by further discussion.

Econometric Studies

Previous efforts to study the role of cigarette advertising on sales have often been fraught with methodological difficulties that yield results that are sometimes inconclusive and/or contentious, particularly so for highly aggregated data. Many measurement and estimation problems in these econometric studies tend to produce ambiguous results with uncertain implications (Arbogast 1986; Chapman 1989; Franke 1994). Common obstacles include lack of both experimental control and systematic variation of the key variables; limited ranges for the key variables being observed; identification problems; treatment of lagged and durable effects of advertising; use of inappropriate criteria, such as total sales, rather than something more specific, such as brand shares, the number of starters, or quitting rates; the omission of key variables, such as antismoking public health programs; and the (mis)specification of key variables and their roles. At best, relating aggregate sales to aggregate advertising can only measure the marginal impact of the often small changes in actual aggregate advertising spending.

The most serious problem, however, is not methodological, but interpretive. At best, these types of studies estimate point elasticities of demand around current spending levels. If the elasticities were large, the firms would have a strong incentive to spend more. Therefore, we expect that discovered point elasticities around current spending levels should be low if spending is close to optimal. Too often, the equivocal results or small observed elasticities illogically are used politically to support the position that cigarette advertising bans would have no effect on consumption. Generalizing from studies of small variation to a total ban is clearly fallacious. As an analogy, consider an agronomist with meager results from a study of small variations of rainfall on plant growth concluding that these plants would be unaffected by a total drought. Analysts recognize that this is an inappropriate conclusion and generalization. “The non-significance and small magnitude of the estimated elasticities do not speak to the effects of a total ban on cigarette advertising” (Franke 1994, p. 39).

Despite the diversity of databases and time spans analyzed, the models employed, the covariates considered, and the methodological problems previously alluded to, Andrews and Franke’s (1991) metanalysis of this large body of literature shows a significantly positive elasticity of demand with respect to advertising. Their review does not deal with the few cross-sectional studies or estimates based on survey results, but rather the many time-series analyses of industry

¹The use of tradenames is for identification purposes only and does not imply endorsement by the *Journal of Marketing*, the authors, or their universities or employers, such as the USDHHS.

aggregate sales as a function of aggregate advertising and other variables, such as price. There were 48 such studies, which collectively covered the period from 1933 to 1990. Of these, 25 were based on U.S. data, another 13 were from the United Kingdom, with the remainder from other countries. The weighted mean advertising elasticity appeared to decline over time but was positive and significantly different from zero, as was the income elasticity. The calculated negative price elasticity meant that all three elasticities were in the directions that basic economic theory posits. Other meta-analyses and international literature reviews reach the same conclusion that advertising and its regulation has an influence on primary demand (Laugesen and Meads 1991; Smeets et al. 1992; Toxic Substances Board 1989; USDHHS 1989a).

Brand-Based Studies

The majority of econometric studies of cigarette advertising and sales use aggregate data. "Only a few studies have examined the relationship between brand advertising expenditures and brand consumption, a vital component in the discussion of the effects of cigarette advertising" (Wilcox 1991, p. 63). Using data at the brand level can produce inferences and insights not obtainable from more aggregate data and this "improved understanding can lead to more effective regulations" (Wilcox and Richards 1990, p. 153).

In an early pioneering paper, Telser (1962) used brand-based data from 1912 to 1960 for various purposes, estimating (1) the returns to advertising brand by brand, (2) the dynamics of competitive rivalry using advertisement spending, (3) the depreciation of advertising capital (goodwill), and (4) repeat purchase parameters. The fourth is of strategic interest, because it measures "the fraction of sales they [the firms] retain from year to year" once a brand "obtains a cohort of customers by means of advertising" (Telser 1962, p. 483).

Peles (1971) discussed data for 22 brands representing all six U.S. firms for the period between 1953 and 1965. His models consider brand advertising expenditures for all other brands and show that advertising increases demand for cigarettes and that advertising's effects carry over into future years with an advertising goodwill decay rate estimated at between 35% and 45%.

Schnabel (1972) studied cigarette-industry data for 18 brands from 1948 to 1963 by using Koyck's (1959) depreciation of advertising goodwill and found a depreciation rate of 27 to 35%. Brands with large shares of advertising earned proportionately large market shares, which suggests no substantial economies of scale.

Another study of economies of scale for advertising examined 14 unnamed brands for the period between 1953 and 1970 with equations that included parameters for competitive advertising, as well as current and accumulated "advertising capital" (Brown 1978). This study concludes that advertising is a significant barrier to entry, which puts new brands at a disadvantage, including new brands introduced by the established firms. It also finds that the returns to advertising fell the longer a brand had been on the market, though this finding could be specific to the era studied—

when the industry was dramatically transformed by new brands offering the technological innovation of filters.

Recently, Holak and Reddy (1986) examined ten brands over the period 1950–1979 to compare industry behaviors before and after the cessation of broadcast advertising. They conclude that the withdrawal of cigarette advertising from broadcast media changed the competitive dynamics of the industry. The broadcast ban appears to have had the effects of decreasing advertising elasticity, increasing price elasticity, increasing brand loyalties substantially, and in general acting as a barrier to competitive entry.

Holak and Tang (1990) studied 12 brands over the period 1952–1979 to explore the *product evolutionary cycle*, an alternative to the more familiar *product life cycle*. They found a causal relationship between advertising and sales for Marlboro, Viceroy, Winston, L&M, Kent, and Salem brands, with more ambiguous results for the older unfiltered Camels and Pall Malls.

Wilcox and Richards (1990) related separately the 1949–1985 sales for five brands (Kool, Salem, Winston, Benson & Hedges, and Marlboro) to brand advertising activity, price, and other variables. They found advertising expenditures to be significantly and positively associated with sales for four of the five brands—all save Winston. An expansion of this analysis to ten brands representing five of the six U. S. firms adds Newport to the list of brands for which advertising was significantly related to sales and concludes that "advertising is perhaps a fairly important marketing tool" (Wilcox 1991, p. 65).

Hypotheses

Industry Assertions and Null Hypotheses

Despite the metaanalysis (Andrews and Franke 1991) indicating that elasticity of cigarette advertising is positive, some persist in believing that cigarette advertising is of little consequence, at least with respect to young children (e.g., Boddewyn 1989; Reid 1989; Ward 1959). Arguing that cigarettes are a so-called mature industry, it is claimed that cigarette advertising and promotional activity affects only brand-switching behavior among established adult smokers. These sort of testifiers would have us believe that by neither intent nor effect does cigarette advertising influence young people, reassure and retain existing smokers who might otherwise quit, or induce current smokers to smoke more—several of the ways that advertising might conceivably influence primary demand.

The assertion that cigarette advertising has little or no effect on the young is the basis for our null hypotheses. We postulate two such null hypotheses, one more stringent than the other. The more stringent H_1 asserts that there is no effect on teenagers whatsoever, whereas a less stringent formulation, H_2 , posits that advertising effects on teenagers, if evident, are significantly smaller than those on adults. Expressed more formally,

- H_1 . Brand choices among teenagers are unrelated to cigarette advertising (i.e., $\beta_{teen} = 0$, where β_{teen} is a coefficient of advertising sensitivity for teenagers)

H₂: Brand choices among teenagers are significantly less related to cigarette advertising than those among adults (or $\beta_{teen} < \beta_{adult}$, where β_{adult} is a coefficient of advertising sensitivity for adults).

Alternate Hypotheses

There are several reasons to posit alternate hypotheses. Theoretical, strategic, historical, and behavioral analyses all point to the distinct possibility that advertising is important among teenagers and affects their brand and product perceptions, attitudes, beliefs, and behavior—including brand choice. There are several reasons to posit that the relationship between advertising and brand choice may be more dramatic among teenagers than adults.

Some reasons to doubt the mature market classification; (i.e., $\beta_{teen} = 0$). First, no industry evidence supports the classification of cigarettes as a mature market. This classification from the product-life-cycle typology is at the cornerstone of the contention that cigarette advertising in both intent and effect only influences brand loyalties and switching among existing smokers. To the best of our knowledge, no corporate documents have ever been produced in litigation or research that indicate that the mature market classification is an element in the industry's own strategic analyses. There was no evidence to support the mature market opinions expressed by industry-nominated experts such as Ward (1989) or Reid (1989).

Second, the classification of cigarettes as a mature market is simplistic and fails to recognize the special nature of this industry. Many marketing and advertising textbooks do not even mention the product-life-cycle concept. When discussed, it is appropriately treated as a pedagogical generalization, not an axiomatic "fundamental law" with invariant implications, which tobacco industry spokespersons allege it to be (e.g., Reid 1989). Even as a generalization across other industries "the empirical evidence of the existence and pervasiveness of the product-life-cycle concept is quite uneven" (Lilien, Kotler, and Moorthy 1992, P. 513). The industry is unique in not only the addictive and deadly nature of its products (USDHHS 1988) and the associated publicity and marketing problems that these present, but also in its oligopolistic structure and legislative history and constraints.

Third, empirical evidence contradicts the classification. The cigarette industry fails the diagnostic tests indicative of mature markets, such as diminished profitability and advertisement spending. Furthermore, O'Toole, an advertising industry spokesman, states that advertising strategies for mature products "always specify the competitive brand from which the volume will be taken" (Colford 1986, p. 8, emphasis added). The industry fails this diagnostic test, too. J. Walter Thompson's senior researchers who tried to apply this concept to the cigarette industry suggest that other researchers should "forget the product life cycle concept" (Dhalla and Yuseph 1976). They find that whether considering product class (e.g., cigarettes), product form (e.g., filter cigarettes), or brand (e.g., Winston), "it is not possible to validate the model at any of these levels of aggregation" (p. 103, examples in original).

Some reasons to expect advertisement sensitivity among adolescents (i.e., $\beta_{teen} > 0$). First, no isolation or immunity protects children and adolescents. Teenagers and younger children are in no way isolated from cigarette advertising's attractiveness and inducements. There is no "magic curtain around children and teenagers who seek to learn how to fit into an adult world," nor is there any "convincing defense of a view that would make young nonsmokers immune" (Cohen 1990, p. 241, 240). The National Association of Broadcasters saw this long ago: "The difficulty in cigarette advertising is that commercials which have an impact upon an adult cannot be assumed to leave unaffected a young viewer, smoker or otherwise" (Bell 1966, pp. 30–31). Even one retired Marlboro adman admitted: "I don't know any way of doing this [advertising cigarettes] that doesn't tempt young people to smoke" (Daniels 1974, p. 245). Research indicates that the likelihood of adolescent smoking is related to advertisement exposure rates (Botvin et al. 1993).

Second, cigarettes have friendly familiarity. The pervasiveness and ubiquity of cigarette advertising in multiple media and forms makes cigarettes a cultural commonplace, which creates a benign taken-for-granted attitude that Marlboro's advertising agent called "friendly familiarity" (Burnett 1961, p. 217). The firm Social Research observed long ago that "the kind of advertising that is 'almost everywhere' makes cigarettes 'respectable' and is therefore reassuring" (Tide 1952, p. 23). Other researchers have stated that "the ubiquitous display of messages promoting tobacco use clearly fosters an environment in which experimentation by youth is expected, if not explicitly encouraged" (Bonnie and Lynch 1994, p. 34). (For a recent review in marketing research of the "robust and reliable" familiarity or mere exposure effect including advertising to children, see Mizerski 1995, pp. 59–60.) Highly repetitious advertisement exposure likely leads to judgmental biases in both risk and social perceptions, such as assessments of smoking prevalence and the social acceptance experienced by smokers.

Third, the young have biased perceptions and judgments. Adolescents as a group are subject to a generalized *invulnerability syndrome* (Greening and Dollinger 1991). They overestimate the prevalence of cigarette smoking among both peers and adults, and the degree of this overestimation is among the strongest predictors of smoking initiation (e.g., Chassin et al. 1984). The young also tend to underestimate the negative attitudes of peers and the risks to which they personally are exposed should they smoke, which creates doubts about whether their smoking is in any sense an informed choice or decision (Leventhal, Glynn, and Fleming 1987). "Cigarette advertising appears to influence young people's perceptions of the pervasiveness, image and function of smoking. Since misperceptions in these areas constitute psychosocial risk factors for the initiation of smoking, cigarette advertising appears to increase young people's risk of smoking" (USDHHS 1994b, p. 195). Others summarizing this line of research observe that vulnerable teenagers tend to both "exaggerate the social benefit (by overestimating the prevalence and popularity of smoking among peers and adults) and to underestimate the risks (by underestimating the prevalence of negative atti-

tudes toward smoking held by their peers)" (Bonnie and Lynch 1994, p. 34).

Fourth, advertisements use appealing imagery. Depicting vigorous people in pristine outdoor environments or cigarette brand names in promotional association with sporting events, cigarette advertisements typically feature veritable pictures of health (Pollay 1991, 1993a; USDHHS 1994b, pp. 179–84). The imaged themes of cigarette advertisements (e.g., independence, adventure seeking, social approval, success and sophistication, healthfulness) are known to appeal to young people. The theme of independence, so captured by the Marlboro Man or Virginia Slims, is particularly resonant with the characteristic need of adolescents for autonomy and freedom from authority. Moreover, some of the models in cigarette advertisements appear particularly youthful (Mazis et al. 1992). The visual experience of this imagery, in contrast to verbal assertions, tends to "bypass logical analysis" (Cohen 1990; Puto and Wells 1984).

Fifth, the industry initiatives, past and present, must be considered. The tobacco industry has long displayed a strategic interest in the youth market (Pollay 1995; USDHHS 1994b, Chapter 5). Since the 1940s, the industry's interest in the youth market has been manifest in the planning documents, market research activities, copy and creative preferences, and media plans for at least some brands. Marketing mixes have placed cigarette advertisements on billboards near schools and malls, and on after-school radio spots and television programs with effective reach into youth markets. The time preferences of the television advertising schedules of the 1960s correlated with the proportions of teenagers delivered in the audience, not that of adults (Pollay 1994a, b). R. J. Reynolds's 1973 "Research Planning Document on Some Thoughts About New Brands for the Youth Market" describes programs for appealing to "learning smokers," including adjusting the pH (acidity) to control the rate of nicotine absorption and appealing to anti-establishment sentiments (Schwartz 1995). Philip Morris considered targeting female teenage nonsmokers identified as "vulnerables," because their friends and/or parents smoked and because they "shared many of the same values as the smokers" (Udow 1976, p. 7664).

Copy concepts for many brands have long focused on images of independence, with the industry knowing that autonomy and self-reliance is a dominant psychological need of adolescents (USDHHS 1994b). Trial evidence shows that the success of starter brands is the result of carefully planned and executed strategies, guided throughout by extensive research (Pollay and Lavack 1993). Many research documents, strategy statements, copy platforms, and media plans specify targets beginning at 15 years of age. R. J. Reynolds's Canadian affiliate commissioned the customization of the "Youth Target Study '87" and obtained extensive data on subjects as young as 15 years of age. The popularity of their starter brand is attributed to their belief that "very young starter smokers choose Export A [cf. Camel] because it provides them with an instant badge of masculinity, appeals to their rebellious nature and establishes their position amongst their peers" (Pollay and Lavack 1993, p. 268–69). Its major competitor targeted 15-year old adolescents in its

media plans and did not use smoking as a target audience criterion, thereby paying equally to reach both underage smokers and/or nonsmokers.

Some reasons to expect greater advertisement sensitivity among adolescents than among adults (i.e., $\beta_{\text{teen}} > \beta_{\text{adult}}$). Even if we conjecture that the U.S. firms base their strategies on a mature market concept, do not pursue the profit-maximizing strategies of attending to quitters and starters, no longer show the strategic interest in the young that is evidenced by their history, and behave differently from their Canadian subsidiaries, there are still several remaining reasons to believe that cigarette advertising and promotion has consequential effects among the young and that these effects might be more substantial than among adults. Both consumer behavior and psychology experts (e.g., Cohen 1990; Fishbein 1977) judge it highly implausible that cigarette advertising has no such effects. Their view is supported by the considerable evidence reviewed in two recent surveys of the research literature on cigarette advertising and the young by the U.S. Surgeon General (USDHHS 1994b, Chapter 5) and the Institute of Medicine of the National Academy of Sciences (Lynch and Bonnie 1994, Chapter 4).

First, identity formation and advertising attentiveness—adolescence is a time of identity formation, which makes teenagers especially attentive to both advertising and peer group influences for cues concerning symbols of adulthood and acceptance. Although adolescents pay only scant attention to warnings (Fletcher et al. 1995), they use advertising imagery as a window into the adult world. "Teens are also more susceptible to the images of romance, success, sophistication, popularity, and adventure which advertising suggests they could achieve through the consumption of cigarettes" (Nichter and Cartwright 1991, p. 242). Even brief cigarette advertisement exposures in laboratory settings can result in more favorable thoughts about smokers, enhance attitudes, increase awareness, and change brand preferences of the young (Hoek, Gendall, and Stockdale 1993; Pechmann and Ratneshwar 1994). "Cigarette advertising's cultural function is much more than the selling of cigarettes. Its collective images represent a corpus of deeply rooted cultural mythologies that are not simply pieces of advertising creativity, but icons that pose solutions to real, experienced problems of identity" (Chapman and Fitzgerald 1982, p. 494). This was seen by the National Association of Broadcasters when it assessed an industry attempt at self-regulation. "The adult world depicted in cigarette advertising very often is a world to which the adolescent aspires.... To the young, smoking indeed may seem to be an important step towards, and a help in growth from adolescence to maturity" (Bell 1966, pp. 30–31).

This is consistent with consumer behavior knowledge reflected in textbooks and journals. "Teenagers have become increasingly aware of new products and brands. They are natural 'triers'" (Loudon and Della Bitta 1993, p. 151). Because teenagers have a great deal of uncertainty about themselves and because they want to belong and find their own identity, they "actively search for cues from their peers and from advertising for the right way to look and behave"; they become "interested in many different products" that

can express their needs for "experimentation, belonging, independence, responsibility, and approval from others" (Solomon 1994, pp. 503–504). By high school, possessions and "badge products," such as cigarettes, are used as instruments for defining and controlling relations between people (Stacey 1982). In contrast, adults are not so caught up in processes of identity experimentation and discovery and the related searching of their environment for consumption items symbolic of aspirational identities. Their longer histories, particularly as smokers, likely gives them less interest in, and greater resistance to, the temptations of most new brands and/or advertising campaigns.

Second, adolescents are persuasion-coping novices. As consumers, the young tend to be more brand conscious, less price conscious, and less experienced in counterarguing against advertising and selling tactics (Brucks, Armstrong, and Goldberg 1988; McNeal 1992). Although there is only modest empirical evidence about the exact nature of persuasion knowledge at different ages, Friestad and Wright (1994, p. 7) note that teenagers, who are "novices in coping with advertising or selling encounters[,] may recognize only simple, superficial patterns in these events and have little proficiency with self-regulatory processes ... [and] coping strategies." It follows that "persuasion coping novices and people with considerable coping expertise may be influenced differently by the same persuasion attempt" (p. 13).

Third, previous research must be considered. "Young people know advertising better, appreciate brand-stretching advertising more," and possess an ideal self-image that is a better match to images created for cigarette brands than do adults (Rombouts and Fauconnier 1988, p. 317; see also Aitken et al. 1987). A recent study (Pierce and Gilpin 1995a; Pierce, Lee, and Gilpin 1994) reports data indicating that smoking rates among young women increased sharply in the late 1960s, coincident with the launch of Virginia Slims and other "female" brands. More recently, the three most commonly purchased brands among adolescent smokers in 1993 were the three most heavily advertised brands, and the changes in adolescents' brand preference for Marlboro and Camel between 1989 and 1993 did not appear to be explained by changes in overall market share for these brands so much as by changes in brand-specific advertising expenditures (CDC 1994).

Fourth, consider addiction and brand loyalty. Teens are a strategically important target audience, because brand loyalty is often developed during this time and this creates a "barrier-to-entry for other brands not chosen during these pivotal years" (Solomon 1994, p. 504). "This is a time when brand loyalties may be formed that could last well into adulthood"; The young are a "*perpetually* new market ... thus a marketer must not neglect young consumers who come 'on stream' if the company's brand is to have continued success in the older-age market" (Loudon and Della Bitta 1993, pp. 152–55, citing Moschis and Moore 1981). Previous econometric results have led to conjectures that "loyal and addicted buyers ... selectively screen out information about health hazards as well as competing advertising information" (Holak and Tang 1990, p. 25). In addition, we expect that the addictive nature of nicotine fosters high

levels of brand loyalty and product dependence. The young have far less habituation to a specific brand because of their much shorter histories as smokers.

Fifth, segments have differential strategic attractiveness. Strategic analysis indicates that the cigarette firms should be far from indifferent to the dynamic phenomena of starting or quitting. The high rate of people quitting smoking and dying means that sales for this industry would drop precipitously were it not for a continuing influx of new starters. Concerned smokers who contemplate quitting are known in the trade as *prequitters* (Pollay and Lavack 1993). Profit-maximizing firms naturally want to reassure these customers to retain them. The cigarette industry is also well known for its phenomenally high brand loyalty, the highest of all consumer product categories (e.g., Alsop 1989). A relatively low rate of brand switching is evident, typically 10% or less (Cohen 1990, p. 239; Federal Trade Commission 1985; Gardner 1984; Siegel et al. 1996). There is nominal switching within brand families (e.g., from Brand X milds to Brand X lights), which is of little consequence to the firm's net profit. High brand loyalty resulting from the nicotine "satisfaction" of those addicted makes it difficult and expensive to convert competitors' customers. Most of the brand switching that does occur is by older, health-concerned, or symptomatic smokers trading down, typically within a brand family, to products with lower tar and nicotine labeling, in the misguided belief that those products are safer. As a result, the net present value of gaining the trade of these older customers is low compared with the value inherent in attracting young starters, the vast bulk of whom will be highly brand loyal for many years (Tye, Warner, and Glantz 1987).

This strategic situation has been evident to the industry for some time. In 1973, R. J. Reynolds' research and development officers wrote, "Realistically, if our Company is to survive and prosper, over the long term, we must get our share of the youth market" (Schwartz 1995). More contemporary corporate documents echo this idea in stating that "young smokers represent the major opportunity group for the cigarette industry," and "if the last ten years have taught us anything, it is that the industry is dominated by the companies who respond most effectively to the needs of younger smokers" (Pollay and Lavack 1993, p. 267).

Our alternative hypotheses, paralleling the industry's previous null hypotheses, are therefore:

H₃: Brand choices among teenagers are related to cigarette advertising (i.e., β_{teen}).

H₄: Brand choices among teenagers are significantly more affected by cigarette advertising than are those among adults (i.e., $\beta_{\text{teen}} > \beta_{\text{adult}}$).

The Data

Our data consist of market shares among adults and teenagers for five years between 1979 and 1993 (1979, 1986, 1989, 1992, 1993). Our analysis was based on information for nine brands, because some of the surveys measured only these brands specifically: Benson & Hedges, Camel, Kool, Marlboro, Merit, Newport, Salem, Virginia

Slims, and Winston. In addition, we have a time series of the advertising expenditures for each of the nine brands for each year in the period 1974–1993. The shares among teenagers are obtained from survey data, whereas those among adults are obtained from sales figures.²

Adolescent Brand Preference

The prevalence of smoking of each brand among adolescents was obtained from the following national surveys.

The National Health Interview Survey (NHIS), 1978–1980. The NHIS is a household survey of a nationally representative sample of the civilian, noninstitutionalized population of the United States and is administered by the National Center for Health Statistics and CDC. The 1978, 1979, and 1980 NHIS questionnaire asked current smokers to name the brand they smoked most often. Although the NHIS is usually administered only to persons 18 years of age and older, the 1978–1980 surveys included 17-year-old respondents, which provides an opportunity to estimate brand preference among adolescents. To increase the sample size, we used the combined data for the years 1978–1980. The total sample size for 17-year-old smokers was 243.

The 1986 Adult Use of Tobacco Survey (AUTS). The AUTS is a telephone survey of a nationally representative sample of the civilian, noninstitutionalized population of the United States; the respondents were 17 years of age and older; and the survey was administered by CDC's National Center for Chronic Disease Prevention and Health Promotion (USDHHS 1989b). To estimate adolescent brand preference for 1986, we used data for current smokers 17 to 18 years of age, because the sample size for 17-year-olds alone was too small to provide stable estimates. The total sample size for smokers 17 to 18 years of age was 100.

The 1989 Teenage Attitude and Practices Survey (TAPS). Data on knowledge, attitudes, and practices regarding tobacco use were collected from a national household sample of adolescents 12 to 18 years of age through a computer-assisted telephone interviewing system, administered by CDC and the National Cancer Institute (Allen et al. 1993). The 865 respondents who reported that they usually

bought cigarettes themselves were asked the brand they usually smoked. We used data from the 554 respondents 12 to 17 years of age to determine brand preferences among adolescents.

The 1992 Gallup Poll. This was a national telephone survey of adolescents 12 to 17 years of age and included a question on current brand preference (Gallup 1992). The sample size of current smokers who provided brand preference information was 165.

The 1993 Teenage Attitudes and Practices Survey-II. This survey, jointly administered by CDC, National Center for Health Statistics, and the Robert Wood Johnson Foundation, used a methodology similar to the 1989 Teenage Attitude and Practice Survey, and involved both a follow-up of the 1989 respondents and a cross-sectional survey of approximately 5000 new respondents 10 to 15 years of age (USDHHS 1994a). We obtained estimates of adolescent brand preference from the sample of respondents 12 to 17 years of age. The sample size of current smokers who provided brand preference information was 438.

Adult Market Share

The adult market share for individual brands was obtained from Maxwell's consumer reports for each year (Maxwell 1980, 1989, 1994). Although sales to children are included in the aggregate data, this inclusion is unlikely to substantially affect the estimates of market share among adults. Nevertheless, we adjusted the estimates of adult market share for each year and brand by using adolescent brand preference data to subtract the estimated proportion of cigarettes smoked by adolescents. We used national data to estimate the average amount smoked by adults and adolescents and subtracted adolescent consumption volume to adjust the adult market share data.³ To estimate the average amount smoked by adults and adolescents, we used data from the National Household Survey on Drug Abuse for the years 1979, 1985, 1988, 1990, 1991, and 1992.⁴

Brand-Specific Advertising

We obtained brand-specific advertising expenditures for the years 1974–1993 from Competitive Media Reporting (1993, 1994). This group reported annual expenditures by brand in each of the following medias: magazine, newspaper, Sunday supplement, and outdoor. We used total expenditures over all four medias. Data collected before 1988 do not include newspaper advertising expenditures, but this change in the reporting system affects all brands measured. The data do not, however, include costs of sponsorships, sampling, or other promotional activities, nor the costs of advertising de-

³For each brand, total cigarette sales were reduced to adult shares by subtracting the estimated teenage cigarette sales volume, calculated as the product of teenage market share, the number of teenage smokers, and the average amount smoked by teenagers. The adult market share in any year is each brand's sales in proportion to the total for all brands.

⁴This survey, which was administered by the National Institute on Drug Abuse until 1992, is now administered by the Substance Abuse and Mental Health Services Administration (USDHHS 1993).

²To check the validity of using prevalence-based survey data to estimate market shares, we compared the overall market shares predicted from the prevalence of self-reported brand use in the 1986 Adult Use of Tobacco Survey (AUTS) to the sales-based market shares reported by Maxwell (1989) for 1986 for the 28 brands examined in the AUTS. These two measures were highly correlated ($r = .99$). For the nine brands examined in our study, we compared survey-based data for adults with sales data for the years 1979, 1986, and 1987. The difference between survey and sales estimates seemed to be random, with no correlation to advertising level ($r = .03$). Regressing these survey data against sales shows a strong correlation ($r = .98$), with only two outlying data points, both for Marlboro, which tip the regression slope from the perfect diagonal to a value of 1.1. These analyses reassure us that survey data on the prevalence of brand use is a reasonable proxy for sales-based market share data. Nonetheless, we subsequently examine the robustness of our findings by an analytical replication that omits the Marlboro data.

sign and production. Expenditures were adjusted to 1992 dollars using the Consumer Price Index (IMF 1994).

The data for the nine brands show a substantial range of values for advertising share of voice and realized market shares among adolescents and adults (see Table 1).

Method and Results

Methodology

Most previous modeling of advertising effects have used sales as a dependent variable. Because the dependent variable of interest here is market share, we employ an attraction model wherein a brand's market share is equal to its attraction relative to all others. More formally, the market share MS_{it}^s for brand i ($i = 1, 2, \dots, m$) in the period t and segment s is given by

$$(1) \quad MS_{it}^s = \frac{A_{it}^s}{\sum_{i=1}^m A_{it}^s},$$

where A_{it}^s is the attraction of brand i in period t and segment s . Such a formulation satisfies the logical-consistency requirements of market share models (Naert and Bultez 1973); that is, predicted market shares are nonnegative, and the sum of estimated market shares is bounded by zero and one. A general specification for the attraction function is

$$A_{it}^s = \prod_{k=1}^K f_k(X_{ki}^t)^{\beta_k},$$

where

X_{ki}^t = the value of the k^{th} explanatory variable, X_k , for brand i (e.g., brand advertising) in period t ,

f_k = a monotone transformation on X_k , and

β_k = a parameter to be estimated.

Two possible specifications for the attraction function are the multiplicative competition interaction (MCI) model and the multinomial logit (MNL) model. Cooper and Nakanishi (1988, pp. 35–36) recommend using the latter specification to model advertising's impact on market share, because the predicted elasticity can capture threshold effects. We follow this advice and specify the attraction function as follows:

$$(2) \quad A_{it}^s = \exp(\alpha_i + \beta \text{Adstock}_{it} + \epsilon_{it}),$$

where

α_i = a parameter for the constant influence of brand i ,

Adstock_{it} = advertising goodwill of brand i in period t ,

ϵ_{it} = an error term, and

β = an advertising-sensitivity parameter.

Two nested models are estimated. In the first, M1, a single β parameter is used in the attraction function to model the impact of advertising on brand share. The second model, M2, captures the differential impact of advertising on adolescents and adults with the following attraction function:

$$(3) \quad A_{it}^s = \exp(\alpha_i + \beta_s \text{Adstock}_{it} + \epsilon_{it}),$$

where β_s equals the segment-specific, advertising-sensitivity parameter. Thus, two different advertising coefficients are estimated in M2 as opposed to a single coefficient in M1. If our hypotheses are supported, we expect M2 to fit the data better than M1 and β_{teen} to be greater than zero and, perhaps, greater than β_{adult} in model M2.

Advertising Measures

A simple method of measuring the impact of advertising on sales is with a *current effects model*, in which current market shares are presumed to depend solely on current advertising expenditures. However, because several arguments can be made for why advertising's effect on sales may be distributed over time (Hanssens, Parsons, and Schultz 1990, p. 214), we employ a parsimonious method to capture the impact of the advertising expenditures of the previous period. Suppose that advertising for brand i in period t , Ad_{it} , affects its market share for subsequent periods and, in turn, that market shares in a given period are affected by previous, as well as present, advertising. In the spirit of the Koyck-type models used to study the advertising-sales relationship (Koyck 1959), the effective advertising, or Adstock at time t , where the brand subscript i has been dropped for convenience, can be written as

$$(4) \quad \text{Adstock}_t = b_0 Ad_t + b_1 Ad_{t-1} + b_2 Ad_{t-2} + \dots$$

Although estimating separate coefficients for each period is not possible without a large number of data points, we can make the simplifying assumption that the coefficients

TABLE 1
Mean Market Shares and
Shares of Advertising Voice*

Brand	Advertising Share of Voice	Realized Market Shares	
		Adolescent	Adult
Marlboro	12.7 (5.6)	59.5 (11.2)	21.9 (3.5)
Camel	4.9 (2.3)	8.7 (6.9)	3.7 (.6)
Newport	4.7 (3.0)	11.1 (2.8)	3.8 (1.4)
Salem	5.4 (1.9)	3.8 (4.7)	6.4 (2.0)
Kool	4.8 (2.2)	4.3 (4.6)	5.8 (2.4)
Benson & Hedges	5.3 (1.9)	2.1 (2.0)	3.7 (.9)
Winston	6.9 (2.2)	2.5 (1.7)	9.6 (3.0)
Ment**	6.3 (1.7)	.9 (1.0)	3.8 (.1)
Virginia Slims**	4.8 (1.9)	2.2 (2.5)	2.4 (.5)

*Market shares based on years 1979, 1986, 1989, 1992, and 1993. Advertising data from 1974 to 1993. Standard deviations are in parentheses.

**Adolescent market share data for these brands are not measured for all years.

show an exponentially decaying pattern over time (Clarke 1976). Equation 4 can then be written as

$$(5) \text{ Adstock}_t = b_0 \text{ Ad}_t + b_0 \lambda \text{ Ad}_{t-1} + b_0 \lambda^2 \text{ Ad}_{t-2} + \dots$$

where $0 < \lambda < 1$. Writing out the expression for Adstock_{t-1} and subtracting it from Equation 5 yields

$$(6) \text{ Adstock}_t = (\text{Adstock}_{t-1})\lambda + b_0 \text{ Ad}_t.$$

Equation 6 can be further simplified by assuming $b_0 = 1 - \lambda$, thereby yielding

$$(7) \text{ Adstock}_t = \lambda \text{ Adstock}_{t-1} + (1 - \lambda) \text{ Ad}_t.$$

When defined in this manner, the Adstock measure parsimoniously captures the advertising history and is analogous to the brand-loyalty measure used in brand choice models estimated on scanner data (e.g., Guadagni and Little 1983). Adstock is initialized equal to the brand's share of advertising expenditure in the first period for which advertising data is available (i.e., 1974). For any value of λ the Adstock measure for every other period is calculated by using Equation 6 successively on each brand's advertising share.

Model Calibration

The models are estimated by ordinary least squares regression after applying the log-centering transformation to the data (Cooper and Nakanishi 1988) for each period t . The regression equation used to estimate the parameters of M1 is specified as follows:

$$(8) \text{ MS}_{it}^* = \alpha_i + \sum_{j=2}^m \alpha_j d_j + \beta (\text{Adstock}_{it} - \overline{\text{Adstock}_t}) + \epsilon_{it}^*,$$

where

$$\text{MS}_{it}^* = \log(\text{MS}_{it} / \tilde{\text{MS}}_t^*), (i = 1, 2, \dots, m);$$

$$\tilde{\text{MS}}_t^* = \text{the geometric mean of } \text{MS}_{it}^*;$$

$$d_j = 1 \text{ for brand } = j \text{ and } 0 \text{ otherwise};$$

$$\epsilon_{it}^* = \epsilon_{it} - \bar{\epsilon}_i;$$

$$\bar{\epsilon}_i = \text{the arithmetic mean of } \epsilon_{it} \text{ over } i \text{ in period } t; \text{ and}$$

$$\overline{\text{Adstock}_t} = \text{the arithmetic mean over } i \text{ of } \text{Adstock}_{it} \text{ in time period } t.$$

Model estimation is carried out in two steps. In the first, we pick a value for smoothing constants λ and calculate Adstock for all periods. These advertising measures are then used in estimating M1 and M2 with the procedure previously described.⁵ Repeating the process with different λ values enables us to select the best-fitting model on the basis of the adjusted R^2 criteria.

Results

We used λ values ranging from 0.0 (the current effects model) to .9 in increments of .1 and found that a smoothing

constant of .8 or .7 provided the best fit for M1, whereas $\lambda = .3$ provides the best fit for M2.⁶ Because our main focus is not the magnitude of the advertising carryover coefficient, we examined the differences between M1 and M2 for both $\lambda = .7$ and $\lambda = .3$. In Table 2, we report the parameters obtained in estimating the two models.

A comparison of columns A and B represents a conservative test of the null hypothesis, because λ has been chosen to maximize the fit of M1. A more appropriate comparison, perhaps, is of columns A and D. Finally, as a test of the null hypothesis, we can also compare columns C and D. All three comparisons show that M2 fits better than M1 (incremental F-ratios significant at the .01 level), which supports the hypothesis that $\beta_{\text{teen}} (12.51/10.48) > \beta_{\text{adult}} (5.33/3.06)$. A t-test of the difference between β_{teen} and β_{adult} yields a t-statistic of 2.62 ($p < .01$) for $\lambda = .7$ and 3.36 ($p < .01$) for $\lambda = 0.3$. Advertising sensitivity among adolescents is not only substantial, but is also significantly larger than that among adults. In our best fitting model, M2 for $\lambda = .3$, β_{teen} is 3.42 times larger than β_{adult} . Even if our estimate of β_{teen} is 10% higher because of our use of survey rather than sales data, β_{teen} is still significantly larger than zero and β_{adult} . Under this conservative assumption, β_{teen} is still two to three times larger than β_{adult} .⁷

Modeling the Imitation Effect

A plausible supplemental hypothesis is that advertising may have an indirect effect on the young by directly effecting adult smoking behavior, which adolescents imitate. According to this view, therefore, brand market shares among teenagers might be explained substantially by incorporating an imitation effect into the model. To do this we rewrite Equation 3 as

$$(9) A_{it}^s = \exp(\alpha_i + \beta_s \text{Adstock}_{it} + \beta_1 \delta^T \text{Imit}_{it}^s + \epsilon_i),$$

where

Imit_{it}^s = market share of brand i among adults in period t ,

β_1 = imitation response parameter, and

$\delta^T = 1$ if $s = \text{teenager}$ and 0 if $s = \text{adult}$.

Other terms and parameters are as defined in Equation 3. To the extent that teenagers imitate adults, we expect that brand market shares among adults are a good predictor of the corresponding market share among teenagers (i.e., $\beta_1 > 0$). In addition, if the impact of advertising on teenagers occurs

⁶The results indicate that the best-fitting value actually lies in the range from $.7 < \lambda^* < .8$. A finer grid-search may be used to locate this value were this the focus of our research. On the basis of a reviewer comment, we fixed the decay parameters for the adult group at .7 and .3, respectively, and varied the parameter for the teenage group (λ) from .1 to .9 in increments of .1. The results supported our main hypotheses (i.e., the relationship $\beta_{\text{teen}} > \beta_{\text{adult}}$).

⁷Because our formulation does not account for the possibility that both advertising and sales are jointly affected by other factors, a reviewer suggested we test whether advertising is exogenous to market share using lagged values of advertising as an instrumental variable (IV) for Adstock. We operationalized the instrumental variable as Adstock_{it-1} and used Hausman's (1978) specification test for the difference between β and β_{IV} . The results did not reject the null hypothesis of advertising exogeneity.

⁵The estimated values of α_i ($i = 2, 3, \dots, m$) in Equation 8 are not the estimates of the original parameters α_i but estimates of the difference $\alpha_i - \alpha_1$, where brand 1 is an arbitrarily chosen reference brand. M2 is estimated similarly, except that separate coefficients (β_{adult} and β_{teen}) are used to capture the impact of advertising on segment shares.

TABLE 2
Estimation Results

	$\lambda = .7$		$\lambda = .3$	
	A. M1	B. M2	C. M1	D. M2
β^*	8.92 (3.52)		6.77 (3.27)	
β_{teen}		12.51 (4.55)		10.48 (4.75)
β_{adult}		5.33 (1.93)		3.06 (1.39)
Adj R2	.5788	.6142	.5699	.6271
Incremental F ratio d.f. = (1,72)		7.60 ($p < .01$)		12.05 ($p < .01$)

*For β estimates, parentheses contain asymptotic t-statistics.

only through an imitation effect, we expect the advertising coefficient to be nonsignificant in this formulation. We reestimated M2 with the enhanced specification of Equation 9. The advertising carryover parameter λ was fixed at .7. β_1 was estimated as $-.027$ and was statistically nonsignificant ($t = -.51$; $p < .62$). Similar results were obtained with the carryover coefficient fixed at $\lambda = .3$. Taken together, these results reject the notion that the advertising impact on adolescents we observe is indirect and due to imitation behavior.

Elasticity Analysis

A clearer picture of differences in advertising response across segments is obtained by calculating segment-specific advertising elasticities, which are the ratios of the relative change in market share corresponding to a relative change in advertising. For the MNL formulation used in this study, the expressions for elasticity are given by

$$e_{\text{teen}} = \beta_{\text{teen}} (1 - MS_i) \text{ Adstock}_{it} \text{ and}$$

$$e_{\text{adult}} = \beta_{\text{adult}} (1 - MS_i) \text{ Adstock}_{it}.$$

An average brand, with a 10% market share and an Adstock level of 10%, has elasticities $e_{\text{adult}} = .28$ and $e_{\text{teen}} = .94$, where $\lambda = .3$. In other words, a 10% increase in the Adstock variable results in approximately a 3% increase in market share among adults and approximately a 9.5% share increase among teenagers. As before, when compared to adults, adolescent are estimated to show a threefold sensitivity to advertising.

Robustness of Results

The main focus of this work, the relationship $\beta_{\text{teen}} > \beta_{\text{adult}}$, seems robust. It is supported by alternative formulations of the model, wherein each segment is allowed to display different decay parameters (see footnote 5). Using the Multiplicative Competitive Interaction model specification, we also reestimated the models reported in Table 2 and found nearly identical results to those based on the preferred MNL specification. Finally, to explore the effect of using survey data for brand shares for adolescents, we reran our analysis for $\lambda = .3$, without Marlboro data. Despite the loss of degrees of freedom and the omission of the single most popular brand among teenagers, our results still indicate that β_{teen}

$> \beta_{\text{adult}}$. For this case, both β_{teen} and β_{adult} are significant, with β_{teen} 2.77 times larger than β_{adult} —a close approximation to the findings we report in Table 2. Under many varied analytic conditions this data rejects the industry's null hypotheses of little or no effect among the young (H_1 and H_2) and supports H_3 and H_4 , the alternative hypotheses, which anticipate a substantial relationship between brand market shares among adolescents and brand advertising during the past and present.

Discussion

To our knowledge, this is the first study to examine the relationship between the intensity of brand-level cigarette advertising and the separate effects on brand market shares realized among adults and adolescents. Using standard techniques to analyze market share, we modeled the impact of cigarette brand advertising on realized market shares to allow for current and historical effects of advertising and for effects of brand advertising relative to total advertising in the competitive set. The results, which are robust under many assumptions, support our hypotheses that (1) brand choices among teenagers are significantly related to cigarette advertising and (2) the relationship between brand choices and brand advertising is significantly stronger among teenagers than among adults. The greater advertising sensitivity among teenagers is in part due to scale (i.e., high fractions of teenagers concentrated on highly advertised brands), and in part due to dynamics (i.e., teenagers' brand choice patterns responding to changes in advertising intensity). Furthermore, the impact of advertising on brand choices among the young apparently cannot be dismissed as teenagers imitating adult brand choices. These results reject the null hypotheses of little or no relationship between advertising and cigarette sales among the young.

Limitations

Further research could seek to validate our results with new data without the less-than-ideal aspects of our data set. Three such aspects are subsequently discussed, with comments as to how these aspects might have affected our ability to discover results.

Survey data. Information on adolescent brand preferences was obtained from survey data, whereas information on adult brand preferences was based on sales data. The primary difference between the two is that survey-based data can measure share as a proportion of all people, which may not be exactly the same as the proportion of total consumption if different brands are smoked at substantially different rates. However, we found an extremely high correlation between prevalence-based market share estimates and sales-based market shares, which suggests that using survey data to estimate market shares is reasonable and unlikely to have seriously influenced the results of our model. Even if deflated to account for any possible bias in using survey data, our results remain substantial and statistically significant.

Unequal age distributions. The age distribution of respondents in the five surveys used to obtain adolescent market share data was not identical in all the years studied, and brand preferences might vary by age, even within the relatively narrow range of teenage years. If so and if the older teenagers providing our data for some years behave more like adults than the younger ones, this would have the effect of biasing results toward adolescents who seem less distinct from adults. If so, this limitation works against our finding that $\beta_{\text{teen}} > \beta_{\text{adult}}$, and the potential bias suggests that the true advertising sensitivity among teenagers would be even greater than that observed here, particularly for the younger ones.

Advertising only. Our data set included only advertising expenditures. Brand-level cigarette promotion and merchandising expenditure data were not available. Thus, we are unable to comment directly on the differential effects of brand-level sponsorships, contests, catalogues, and in-store merchandising expenditures on realized market shares among adults and adolescents.

Consistency With Previous Research

Our finding of a small effect of advertising intensity on market share among adults from 1979 to 1993 is consistent with some previous research. Holak and Reddy (1986) evaluate the effect of brand-specific advertising on brand sales before and after the 1970 advertisement ban. Their study reveals that advertising elasticity for eight of ten brands decreased in the postban period and that there was no significant effect of advertising for any of the brands after the ban. The finding of an adult advertising elasticity of .28 is consistent with the mean advertising elasticity of .22 found in a metaanalysis of many studies in many industries (Assmus, Farley, and Lehmann 1984). Finding a teenager advertising elasticity that is about three times larger than the adult's is consistent with the idea that new users of any product are less fixed in their ways than older habitual users. Our findings about greater advertising sensitivity among the young are consistent with the basic observations that their brand choices are highly concentrated on the brands most heavily advertised (CDC 1992, 1994). Our results display a similar pattern to those found by California's Operation Storefront. "Heavy advertising in stores exactly matches the brand preferences of children who smoke ... but the ad prevalence does not

match adult smoker preferences" (Hilts 1995, B10). Our results are also consistent with European research "suggesting that adolescents are more susceptible to tobacco advertising than are adults" (Rombouts and Fauconnier 1988, p. 308). They are consistent, too, with a review of the effectiveness of antismoking advertising on underage smoking (Pechmann, forthcoming) and the historical coincidence of the timing of youth initiation rates with major campaigns (Pierce and Gilpin 1995b). They are also consistent with the conclusions of the Surgeon General's Report (USDHHS 1994b) that cigarette advertising puts children at greater risk by influencing young people's perceptions of the pervasiveness, image, and function of smoking—all of which are psychosocial risk factors.

On Attracting Young Consumers

We examine brand-level cigarette advertising and its relation to brand choices among adolescents and adults, but do not directly examine the impact of advertising on smoking initiation among the young. Further research might expand on the approach presented here to model specifically the relationship between brand-based cigarette advertising and the young's initiation to smoking various brands. Although our study does not deal with data on product adoption or starting behaviors, our results nonetheless provide evidence that smoking behaviors of adolescents are demonstrably related to previous and current cigarette advertising. With the recent literature reviews, this suggests that marketing, particularly in its promotional aspects, plays a role in the epidemiology of pediatric nicotine consumption and the subsequent diseases (see Table 3). If the perceptions, attitudes, and beliefs governing brand choice are influenced by cigarette advertising, it seems implausible that those same brand perceptions, attitudes, and beliefs have no influence whatsoever on consumption in general. It is impossible to advertise a specific brand without also simultaneously advertising cigarettes as a product class. As the Philip Morris Marketing Vice President famous for managing Marlboro's success states, "A cigarette company's ads are not just competing with ads for other brands. You are competing with every other advertiser in America for a share of the consumer's mind" (Whiteside 1974, p. 133). Advertising that makes a cigarette brand attractive inevitably also makes cigarette smoking attractive, at least the smoking of that brand.

Public Policy Implications

Our study has some important public policy implications. The most important stems from our finding that, whether or not intended, cigarette advertising is significantly related to adolescents' smoking behavior. Because advertising influences the use of cigarettes among a consumer group to whom selling cigarettes is illegal, the government has a legitimate interest in regulating cigarette advertising. Our results also suggest that regulating cigarette advertising may be an effective policy intervention for influencing smoking behavior among adolescents. The authors of the Institute of Medicine's literature review recommend that this be done at federal, state, and local levels, though it would require repealing current preemptive federal legislation (Bonnie and

Lynch 1994). (For more on legislative options with respect to tobacco advertising, see Blum and Myers 1993; Burns 1994; Pytte 1990.)

The Last Straw?—An Implication for Marketing Scholars

Metanalysis has shown cigarette advertising elasticity to be positive. Strategic analysis indicates that new users who subsequently become addicted and loyal clientele offer greater expected net present value than do brand switchers. Historical analysis shows the industry's strategic interest in adolescents to be long-standing. Analysis of contemporary corporate documents shows a continuing interest in capturing the young, among whom virtually all starting occurs. Content analysis of advertising shows that cigarette advertising imagery largely consists of pictures of health and images of independence, which are known by the industry to resonate with adolescent needs for autonomy and freedom from authority. Behavioral analyses show that cigarette advertising constitutes a psychosocial risk factor. Our market share analysis adds to the existing literature by showing that teenage smoking behavior is not only related to previous and present advertising, but also that this relationship is

about three times stronger among teenagers than among adults.

Given the preponderance of evidence that cigarette advertising plays a meaningful role in influencing the perceptions, attitudes, and smoking behavior of the young, it is appropriate for scholars to treat the hypotheses of no effects on youth with substantial skepticism. The disciplines of academic research and scientific inquiry require that we reject hypotheses that lack evidence to support them, especially when multiple lines of evidence support alternative hypotheses (Pollay 1993b). The present research and the mass of related work already in hand in no way obviates the need and desirability of additional studies, but the mass and direction of evidence indicates that balanced scholars should doubt industry assertions of there being no effects on the young until they are supported with evidence and analysis comparable to what supports the alternative hypotheses. Although objective scholars may reasonably presume there to be some impact of cigarette advertising on adolescents, further research can contribute to improving our understanding of the processes by which this impact is realized—the when, where, why, how, and to whom types of questions (for a well-articulated research agenda, see Warner et al. 1992).

TABLE 3
An Outline of Marketing's Role in the Epidemiology of Pediatric Nicotine Addiction¹

Corporate		Consumer	
Intentions (Strategic Goals)	Transmissions (Tactics and Tools)	Contagions (Perceptions and Predispositions)	Infections (Adoptions)
Need New Users	Target New Users	Judgments of Prestarters	Get New Users
Strategic Analysis	Promotional Budgets	More Brand/Product Awareness	Number of Starters
Replace the dying	> \$16,000,000/day		~3,000/day
Replace quitters	> \$6,000,000,000/year	More Brand/Product Attractiveness	~1,000,000/year
Switchers fickle and frail	Imagery Employed	Brand and Product Badge Effects	Ages
High share of youth ⇒	Images of independence	Peer and social approval	Most when 12–15 years of age
High share overall	Pictures of health	Independence	Getting younger
Seek Friendly Familiarity	Slim fashionability	Sexiness	Vulnerable Segments
Normalize Smoking	Cartoon dudes	Maturity	Low self-esteem
for more social acceptance	Some youthful models	Judgmental Bias: Incidence	White > Black
among targets	Media Plans	% of adults who smoke	Poor > Affluent
among peers	15-year-olds and up	% of peers who smoke	TGIF > Leaders
among parents, etc.	Nonsmokers included	Judgmental Bias: Risks	Skds > Wimps
Corporate Documents, Plans and Actions (Canada)	Street Saturation	Risks of addiction	Total Sales to Minors
Strategy	Outdoor, transit, shelters, taxi tops, store windows, etc	Risks of disease	~1,000,000,000 packs
Research	Intensive Distribution	Risks of death	> \$1,000,000,000/year
Creative	Signage and displays	Judgmental Bias: Benefits	
Media	Point-of-sale merchandising	Independence	
	miscellany: push plates, baskets, clocks, change trays, ash trays, etc.	Relaxation	
	Vending machines	Fun	
	Product Sampling	Weight control	

¹Primary Sources. Lynch and Bonnie (1994), Pollay and Lavack (1993), USDHHS (1994b).

Conclusions

Because brand shares of advertising voice are significantly related to subsequently realized market shares, cigarette advertising appears to influence the smoking behavior of adolescents. This finding is robust to various assumptions regarding the carryover of advertising effects from period to period and accounting for the possibility that the behavior of adolescents is an imitation of adults who have been influenced by advertising. Notably, the effect is substantially larger among adolescents than among adults by a factor of about three. The battle of the brands for market share is

waged largely among the young, for it is a brand's success among the young that leads to greater brand sales and profit in the long term.

Because of the many behavioral, strategic, historical, theoretical, and empirical lines of argument and research to which our results add, the preponderance of logic and evidence indicates that cigarette advertising is an important influence on the smoking behavior of the young. Scholars should treat the assertion that cigarette advertising has little or no effect on adolescents as naive or disingenuous.

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Promotional Elasticities and Category Characteristics

The authors study the relationships between product category characteristics and average brand promotional elasticity within the category. They present a framework for understanding these relationships and use it to generate hypotheses. The authors also consider three types of promotions and seven category characteristics. They study 108 product categories and use data compiled from weekly scanner data, scanner panel data, and survey data. Their results indicate that promotional elasticities are higher for categories with relatively fewer number of brands, higher category penetration, shorter interpurchase times, and higher consumer propensity to stockpile. The authors find no statistically significant relationship between promotional elasticity and either impulse buying or private label market share. They discuss the reasons for these results and their managerial implications.

Promotional elasticity plays a central role in planning and evaluating sales promotions. For example, promotional elasticity is a key factor in determining the manufacturer's trade-promotion policy and, in turn, the retailer's decision of whether to pass these promotions through to consumers (Blattberg and Neslin 1990; Walters 1989). Promotional elasticities vary significantly from category to category. For example, a recent study by Information Resources (IRI) found that a 15% temporary in-store price cut accompanied by feature advertising increases sales of the promoted brand of toilet tissue by an average of 440.5% (*P-O-P Times* 1991). The same promotion in the pasta category increases sales of the promoted brand on average by 198.1%. The same promotion for a deodorant brand yields an average increase of 102.0%. What accounts for these differences? Are they related to how widely used the category is? How frequently it is purchased? How easy the category is to stockpile? How many brands there are in the category?

Our purpose is to shed light on these questions by investigating the relationship between category characteristics and promotional elasticity. We look at three commonly used types of retail promotions: featured price cuts, displayed

price cuts, and pure price cuts.¹ We attempt to understand how the average increase in brand sales resulting from these promotions can be explained by category characteristics. Using previous work on promotion response as a basis, we study the following category characteristics: category penetration, average interpurchase time, price, market share of private label brands, number of brands in the category, susceptibility to impulse buying, and susceptibility to consumer stockpiling. We develop a framework based on the mechanisms by which promotion increases brand sales and use this framework to generate hypotheses and interpret results. We examine data consisting of promotion response and product characteristics for 108 categories assembled from store-level scanner data, scanner panel data, and survey research. These data provide a unique opportunity to study how promotional response varies across categories.

The study has important implications for manufacturers, retailers, and academics. For example, our results can provide guidance on the following issues:

- *Evaluating promotion performance:* Both manufacturers and retailers often need to know whether promotions are working well for a particular brand. Understanding how well the typical promotion works in a category should provide a benchmark for assessing the performance of a particular brand's promotions. Fader and Lodish (1990) emphasize the use of cross-category analyses in providing benchmarks.
- *Long-term promotion planning:* In planning the role of promotion in a given category over a multyear time horizon, managers must predict how promotion-responsiveness of the category will evolve over time. For example, managers may expect that more brands will enter the category, the category

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¹*Featuring* refers to the retailer advertising the brand at a specific price in a weekly store circular. *Displayed* refers to the retailer providing a special in-store presentation of the product, either through in-aisle or end-of-aisle displays. *Price-cut* refers to the retailer reducing the price of the product in comparison to its regular everyday price. In this research, the price cuts we examine are all 15% price reductions. Price cuts and features or displays are often combined, which is why we examine featured price cuts and displayed price cuts.

will achieve higher penetration, and the overall price level will decrease. What effects do these occurrences have on promotion response? Our study provides a basis for answering this question.

- *Retailer pass through:* The ideal method for retailers to decide whether to pass through a trade deal to the consumer is to have detailed elasticity and cross-elasticity measures for each stock-keeping unit (SKU) in the product category. However, retailers often do not have this detailed information (Blattberg and Neslin 1990, p. 450). They make judgments about promotion response on the basis of product characteristics, such as category penetration (McCann, Tadlaoui, and Gallagher 1990). Our study can help provide the retailer with a more complete basis for making these judgments.
- *Retailer promotion design:* Once the retailer decides to run a promotion, the question becomes whether the promotion should be a pure, displayed, or featured price cut. Should high-penetration categories be featured instead of displayed? Are frequently purchased categories particularly responsive to displays? Our study provides guidance on how to allocate particular types of promotions across categories.
- *Identifying opportunities for private labels:* Private label products are becoming a critical issue for both manufacturers and retailers. Is private label penetration in a category positively or negatively related to promotion response? The answer to this question provides important information for identifying categories in which private labels have the potential to achieve significant market share.
- *Understanding consumer behavior.* Academics have long been interested in understanding the underlying reasons for promotion and promotion response. For example, one hypothesized reason for promotions is to encourage consumers to stockpile, thereby leading to a reduction of the retailer's inventory costs (Blattberg, Eppen, and Lieberman 1981). Thus, categories that can be stockpiled should have a higher promotion response. Promotion is also commonly associated with impulse buying. If that relationship is borne out, it suggests that "deal-proneness" is not always a deliberately planned consumer purchase strategy.

An important theme, which these implications suggest and we adopt, is that marketers can gain insights from cross-category analysis. That is, though many decisions are implemented at the category level, brand level, or even the SKU level, it is valuable to learn from the experiences of a broad sample of product categories. Fader and Lodish (1990) pioneered this theme in the promotions literature through their extensive study of category characteristics and promotional practices. They demonstrate the value of learning from the experiences of a wide variety of product categories. In closing their study, they state, "We hope our exploratory analysis will stimulate thinking about the differences among product categories in terms of their structural and promotional characteristics" (Fader and Lodish 1990, p. 65). Our study is undertaken in the hope of fulfilling this role.

We begin by reviewing the relevant literature to indicate our contribution to the existing body of research. Next, we develop a framework for understanding category differences in promotion response and use it to generate hypotheses. We then describe our measurement and analysis methodology and present our results. We conclude with a discussion of managerial implications and opportunities for further research.

Relevant Literature

We build on three important studies in the promotions literature: the work of Fader and Lodish (1990), Raju (1992), and Bolton (1989). We describe each of these articles and then discuss specifically how we add to this knowledge base. Fader and Lodish (1990) relate category characteristics to category volume purchased on deal. Using data from IRI's "Marketing Factbook," they investigate 331 categories. Among many interesting findings, they report that categories with higher category penetration, shorter inter-purchase times, higher private label share, and lower price levels have high volume sold on deal. Fader and Lodish's study is important because it pioneered extensive cross-category analyses of promotional practices. Fader and Lodish demonstrate the feasibility and value of the type of study we undertake and suggest the importance of variables such as category penetration for studying cross-category differences. However, their study's dependent variable, percentage sold on deal, is a composite of promotional response and promotion frequency. A category could have a large percentage purchased on deal because it has high response, high frequency, or both. Our study, in contrast, focuses on promotional response, a key determinant of promotional policy. In addition, Fader and Lodish view their work as exploratory, whereas we build a specific framework to be used in generating hypotheses. Finally, we consider variables such as impulse buying and ability to stockpile that they do not consider.

Raju (1992) relates category characteristics to temporal variation in category sales. His dependent variable is a measure of the standard deviation in category sales over time. Raju studied variables, such as expensiveness or price, bulkiness (a measure of the propensity of consumers to stockpile the category), level of competition, and promotional effort. His study covers 63 product categories. He finds, for example, that categories with high variability are promoted steeply, but not frequently, and are less expensive, not bulky, and highly competitive. Raju's study is especially valuable because it identifies the roles of category competitiveness and ability to stockpile, variables that we use in our study. However, his dependent variable, variability, is also a composite variable related by definition to promotion response as well as promotional effort and seasonality. By focusing on promotional elasticity, we provide insights on this key determinant of promotional policy. Furthermore, we differentiate among pure, featured, and displayed price cuts, issues not investigated in Raju's study. We also investigate characteristics, such as penetration, impulse buying, private label share, and interpurchase time, that were not included in his study. At the same time, we build on his study by including ability to stockpile and the number of brands in the category, which are measures of competitiveness.

Bolton (1989) investigates the relationship between brand-price promotion elasticity and category characteristics (as well as brand-specific characteristics). The characteristics she studied include price level, variation in price, brand market share, and manufacturer advertising, as well as category and brand use of coupons, displays, and features. She investigates four product categories, each with three

brands, and uses data from 12 stores. Bolton finds that highly elastic brands have lower market shares, less category and brand-display activity, and more category couponing and feature activity. A major part of Bolton's contribution is her shift of the conversation toward understanding the determinants of promotion response. However, because Bolton only investigates four categories, her study is more valuable for understanding brand differences within a category than between-category differences. Understanding brand differences is certainly important, but is not the focus of our research, in which the emphasis is on learning about differences among 108 product categories. Bolton focuses on price elasticity, whereas we include pure-price elasticity plus featured-price and displayed-price elasticities. Also, we study variables more relevant to between-category differences, such as category penetration, interpurchase time, number of brands, private label share, impulse buying, and ability to stockpile.

The previous discussion shows how we build on the relevant literature. Our study is unique in its focus on cross-category differences in promotional elasticity; sample of 108 product categories; comparison of pure, featured, and displayed price cuts; and investigation of a wide variety of category characteristics. In addition, we build a conceptual framework for understanding category differences in promotional response. The result is that we can address issues that the previous studies were not designed to address. For example, our study can help predict future promotional response in a category. Fader and Lodish's (1990) and Raju's (1992) work are less relevant for this purpose, because their dependent variable is not promotional response, but a composite of promotional response and promotion frequency. Bolton's (1989) work is also less applicable to this question, because she examines only four product categories. We also provide insights on which categories might be more suitable for pure versus featured versus displayed price cuts. We provide important information for benchmarking managerial expectations with regard to promotional response across a wide variety of categories. Overall, we investigate a set of issues that is important and not easily addressed by previous research.

Framework and Hypotheses

Previous research has identified four major mechanisms by which promotion affects short-term retail sales. These mechanisms, summarized by Blattberg and Neslin (1990, Chapter 5), include *brand switching*, *store switching*, *category expansion*, and *purchase acceleration*.² Promotion induces brand switching because it provides a strong reason (lower price) for the consumer to buy the promoted brand instead of another brand (see Blattberg and Wisniewski 1989; Gupta 1988). Promotion can also induce store switching, that is, consumers make their purchase in one store

rather than another, because promotion schedules differ from store to store (see Kumar and Leone 1988; Walters 1991). Category expansion refers simply to the ability of a promotion to increase primary demand for a product category (see Assuncao and Meyer 1993; Wansink and Deshpandé 1994). Purchase acceleration refers to consumer stockpiling behavior, which can take the form of consumers purchasing products in the category earlier than they ordinarily do and/or purchasing larger quantities than usual (see Gupta 1988; Neslin, Henderson, and Quelch 1985). In both cases, the economic decision for the consumer is between accelerating the purchase at a low promotion price and carrying the cost for holding additional inventory in the home (Blattberg, Eppen, and Lieberman 1981; Jeuland and Narasimhan 1985). The empirical evidence that purchase acceleration is a real phenomenon implicitly provides evidence that the trade-off is often resolved in favor of stocking up.

We use the four mechanisms—brand switching, store switching, category expansion, and purchase acceleration—as a framework for understanding how category characteristics might relate to the magnitude of the promotional response we observe for the average brand in a product category. The goal is to consider which particular mechanism or mechanisms might be especially influenced by each characteristic. For example, the first characteristic we discuss is category penetration. We proceed by asking how category penetration might influence promotion's effect on brand switching, store switching, category expansion, and purchase acceleration. We then "total up" these effects to make a net prediction on how category penetration should influence promotion elasticity. We summarize this approach in Table 1: A "+" means the characteristic positively influences the mechanism; a "-" signifies a negative impact; a "+/-" means there are good arguments for a positive or negative relationship; and a blank space means we do not expect a strong impact in either direction. We draw on the +'s and -'s in this table to develop our hypotheses. When possible, we state different hypotheses for the different forms of promotion.

We believe the described framework provides a useful tool for developing hypotheses. Sometimes the framework does not yield a clear directional hypothesis; however, it does help us understand the countervailing forces that determine promotion response. Thus, the ability of the framework to structure the issues is as valuable as determining clear-cut hypotheses, because it helps us interpret the results and understand why they turned out the way they did. We apply the framework to each of the category characteristics under investigation.

Category penetration. Higher category penetration should increase the degree of brand switching, store switching, and category expansion brought about by promotion. Higher category penetration means there is a larger pool of consumers who are potential brand switchers and store switchers. Higher category penetration also suggests there are more marginal category users whose consumption can be increased by promotion. The net result is the following hypothesis:

²Another important mechanism receiving attention is the effect of promotion on repeat purchasing. This is an important issue but related more to long-term effects of promotion than to the immediate promotional response studied here and in the other research discussed in the literature review.

H₁: Promotional response is positively related to the level of category penetration.

An assumed increase in store switching is an important component of H₁. Store switching is especially induced by feature promotions, because features are the device by which stores reach potential store switchers (Kumar and Leone 1988). As a result, we have the following hypothesis:

H₂: The positive relationship between promotional response and category penetration is especially strong for featured price cuts.

Interpurchase time. Shorter consumer interpurchase times (i.e., shorter purchase cycles) should result in more brand switching because there is a lower cost to the consumer who switches to a less-preferred brand. As Bawa and Shoemaker (1987) point out, consumers must trade off the lower cost of the promoted brand against the substitution cost of buying a less-preferred brand. This cost is not as severe in product categories with a short interpurchase time, because the consumer must live with the consequences of the decision only for a few weeks and can then switch back to his or her preferred brand. Shorter interpurchase times should therefore be associated with increased brand switching caused by promotion. In addition, interpurchase times might also be related to purchase acceleration. In particular, long interpurchase times discourage acceleration because the stockpiled product must be stored for a longer period of time. This increases the consumer's cost for stockpiling and therefore discourages stockpiling (Blattberg, Eppen, and Lieberman 1981). The net result is that long interpurchase times discourage brand switching and stockpiling:

H₃: Promotional response is negatively related to the category's average interpurchase time.

Price. The measure of price that we study is average dollars spent per purchase occasion. This measure has a complex and ambiguous relationship with the mechanisms that produce promotion response. For example, higher expenditures per purchase occasion imply that price is more salient to the consumer and price cuts generally will be larger in absolute terms. This should induce more brand switching and store switching. Because of perceived risk, however, higher

expenditures may be associated with higher levels of involvement (Deshpandé and Hoyer 1983) and stronger levels of brand loyalty (Assael 1995, p. 135), which lead to less switching caused by promotion. Higher expenditures also imply higher risks with switching to a less-preferred brand, which might discourage brand switching. The effect of price on purchase acceleration is also ambiguous. From an economic standpoint, higher expenditures imply a larger investment on the part of the consumer to *forward buy* (see Blattberg and Neslin 1990, p. 460). On the other hand, higher expenditures imply larger savings in absolute terms, which encourages consumers to forward buy. It is not clear how these effects balance out. In summary, price has an ambiguous effect on brand switching, store switching, and purchase acceleration, and hence we do not advance a hypothesis for how this variable is related to promotional elasticity.

Private label share. Private label share might be related to the degree of brand switching brought about by promotion, but we believe the direction of this effect is also ambiguous. On the one hand, high private label share might signal high price sensitivity, thereby making consumers willing to switch brands easily when presented with a promotional inducement. On the other hand, the very existence of a high market share for a private label brand suggests that consumers are not particularly responsive to promotion, especially because promotions often work disproportionately against private labels (Blattberg and Wisniewski 1989). Therefore, we do not advance a hypothesis for the relationship between private label share and promotion response.

Number of brands. Brand proliferation within a category may signal that there are many market segments in the category and, hence, ample room for product differentiation. This differentiation should insulate many brands from the enticement offered by a competitor's promotion. As a result, we expect that promotions in such categories induce less brand switching and promotional response. On the other hand, brand proliferation has been identified as a potential cause of weakened brand loyalty (e.g., Bawa, Landwehr, and Krishna 1989). If this is the case, the number of brands in a category is associated positively with brand switching. In fact, manufacturers might then find it in their interest to

TABLE 1
Framework for Developing Hypotheses

Category Characteristic	Effect on Components of Promotion Response				Net Effect on Promotion Response
	Brand Switching	Store Switching	Category Expansion	Purchase Acceleration	
Category penetration	+	+	+		++
Interpurchase time	-			-	-
Price	+/-	+/-		+/-	?
Private label share	+/-				?
Number of brands	+/-				?
Impulse buying			+		+
Ability to stockpile				+	+

*To be read: "Higher category penetration should increase the magnitude of brand switching due to a particular promotion."

**To be read: "The net result of the first four columns is that categories with higher category penetration should have longer brand promotional response."

introduce still more brands into the category to ensure that at least one of their brands is on promotion in any given week. Because there are significant arguments for either positive or negative associations between number of brands and promotional response, we do not advance a specific hypothesis. However, this case illustrates the value of the framework for structuring our thinking about these relationships. We can view this variable as providing a test between brand proliferation as market segmentation and trial inducement. If the estimated relationship between number of brands and brand loyalty is negative, the former theory is supported. If the estimated relationship is positive, the latter is supported.

Impulse buying. The degree to which a particular category is purchased on the basis of impulse buying supports category expansion being caused by promotion.³ The promotion attracts the consumer to the category and perhaps stimulates the impulse to buy. Note that this is a category expansion effect, not a switching effect, because switching implies the consumer was planning to buy a particular brand and was switched by the promotion, whereas impulse buying is typically unplanned in nature. We therefore propose the following hypothesis:

H₄: Promotional response is positively related to the degree of impulse buying in the product category.

Impulse buying is generally seen as an in-store phenomenon, that is, the "decision" to buy on impulse is made in the store rather than before shopping (see Cobb and Hoyer 1986). Hence, we expect that impulse buying works especially well in conjunction with in-store display promotions. We therefore advance the following hypothesis:

H₅: The positive relationship between impulse buying and promotional response is especially strong for display promotions.

Ability to Stockpile. The degree to which a product category is easy to stockpile relates directly to the mechanism of purchase acceleration. That is, categories that can be stockpiled readily should react strongly to promotion because there is a large degree of purchase acceleration in the category (see Litvack, Calantone, and Warshaw 1985). Therefore,

H₆: Promotional response is positively related to the ability of a product category to be stockpiled.

In summary, the framework illustrated in Table 1 enables us to generate six hypotheses that relate category characteristics to promotional response. In addition, it helps us to understand the factors that drive the results one way versus the other. We now describe our methodology for testing these hypotheses.

³Note that we are thinking of impulse buying as a category characteristic. Impulse buying is also a consumer characteristic, varying across consumers. Our measurements of impulse buying are collected from individual consumers with respect to their propensity to buy particular categories on impulse. We then calculate category averages to reflect the degree of impulse buying elicited by specific categories.

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Methodology

Measurement

Promotional response. We obtain measures promotional response from the "InfoScan Topical Marketing Report" generated by IRI and published in *P-O-P Times* (1991). The IRI study covers 164 categories and incorporates data from 2400 grocery stores collected during 1988. Information on weekly sales was collected with in-store checkout scanners. Feature and display data were collected by IRI staff visiting each store each week and monitoring major daily newspapers and store fliers. The percentage sales increase for each promotion in each category over the one-year time period was measured using IRI's PromotionScan[®] methodology (Abraham and Lodish 1993). A multiplicative regression model was then formulated for each category, in which the percentage sales increase due to promotion was the dependent variable, and descriptors of the promotion (e.g., feature, display, amount of price cut) served as independent variables. Depending on the type of promotion, the coefficients from this regression were used to estimate the average response to a brand promotion in the category. In particular, average percentage sales increases were calculated for a pure 15% price cut, a 15% price cut accompanied by feature advertising, and a 15% price cut accompanied by a special in-store display.

Category characteristics from panel data. Several category characteristics, including number of brands, category penetration, interpurchase time, price level, and private label share were obtained from IRI's *Marketing Factbook* (Information Resources 1987).⁴ These measures were calculated with IRI's scanner panel data from a national sample of households.

Category characteristics from survey data. Two category characteristics—impulse buying and ability to stockpile—were not available from published secondary sources. Therefore, it was necessary to collect these data firsthand. To obtain measures of these variables for each category, we used a mall survey in which we asked consumers to rate each category on a set of scale items intended to represent impulse buying and ability to stockpile. Because the *Marketing Factbook's* (Information Resources 1987) category definitions did not always match perfectly with the *Topical Report's* (*P-O-P Times* 1991), we obtained impulse and stockpiling measures for 108 categories. We describe the measurement instruments, the sample of consumers, and the derivation of the impulse and ability-to-stockpile scales and finally provide a summary of the category-specific measures.

We adopt Assael's (1995) definition of impulse buying as a synthesis of previous work (especially Rook 1987). In particular, Assael (1995, p. 154) defines impulse buying as "a tendency to buy on whim or an action based on a powerful and persistent urge." Impulse buying has been measured by comparing premeasures of purchase intent to actual purchases (Cobb and Hoyer 1986) and by verbal in-store proto-

⁴These data were generously provided by Peter Fader of the Wharton School, University of Pennsylvania.

TABLE 2
Development of Impulse and Ability-to-Stockpile Scales

Item	Descriptive Statistics		Factor Loadings**	
	Mean*	Standard Deviation	Factor 1	Factor 2
It is easy to store extra quantities of this product in my home.	3.66	1.08	.019	.831
I often buy this product on a whim when I pass by it in the store.	2.48	1.20	.851	.033
I like to stock up on this product when I can.	3.07	1.26	.083	.818
I typically like to buy this product when the urge strikes me.	2.66	1.26	.840	.082

*Measured on a 5-point scale, in which 5 = strongly agree, and 1 = strongly disagree.

**Factor loadings are from principal components analysis

cols (Park, Iyer, and Smith 1989). However, these studies do not produce category-specific impulse-buying measures. Their focus is to study impulse purchasing as a consumer trait, not a category-specific phenomenon.

Drawing on the previous definition of impulse purchasing, along with consumer pretesting, we developed the following two measurement items for impulse buying⁵: (1) I often buy this product on a whim when I pass by it in the store and (2) I typically like to buy this product when the urge strikes me.

In developing our measurement items for ability to stockpile, we drew on the finding that stockpiling consists of changes in purchase timing and purchase quantities (Neslin, Henderson, and Quelch 1985). This understanding, in addition to pretesting with consumers, yielded the following two items: (1) It is easy to store extra quantities of this product in my home and (2) I like to stock up on this product when I can.

The primary advantage of our procedure is that it obtains *consumer-based* ratings of impulse buying and ability to stockpile for each of the 108 product categories. Nevertheless, because of data-collection costs and the number of categories being studied, our sample size could not be large, and we used only two measures of each trait. However, we assess the construct validity of these measures using factor analysis, and we examine the results for face validity.

The sample for the mall survey consists of 100 consumers located in the Boston metropolitan area. Each consumer was asked to rate 27 categories on each of the four scale items, with a total of 108 categories rated across consumers. The consumer needed to be a user of the category to rate it.⁶ The four items were asked in rotated orders. However, the two items we hypothesized to fit together were never asked consecutively. The questionnaire asked the consumer to rate all 27 categories on the first item, then on the second, third, and finally the fourth item. After all the data were collected, the four items were factor analyzed under

the hypothesis that the two impulse items would load together, as would the two stockpiling items. The results of this factor analysis are displayed in Table 2. In Table 2, we show that the items loaded strongly as we hypothesized.

In Table 3, we offer insight on the face validity of the impulse and ability-to-stockpile scales. The product categories that scored the highest and lowest on each of these scales are displayed.⁷ For example, high impulse-buying categories include pastry/doughnuts, bath products, candy, and chips and snacks. Low impulse-buying categories include diet pills, cleaners, lard, milk, and cough syrup. These results make intuitive sense.

Items that are easily stockpiled include canned products, toilet tissue, soap, and pasta. Items that are not easily stockpiled include infrequently used products, such as rug cleaner and furniture polish, and perishables, such as milk and cottage cheese. Thus, the ability-to-stockpile scale also makes intuitive sense.

Analysis

To test our six hypotheses, we used regression analysis. There were three dependent variables—featured, displayed, and pure price cut elasticity. These were analyzed using three separate regressions with category characteristics as the independent variables. Each regression took the following form:

$$\eta_j = \beta_0 + \beta_1 \text{PENET}_j + \beta_2 \text{INTER}_j + \beta_3 \text{PRICE}_j + \beta_4 \text{PLSHR}_j + \beta_5 \text{BRANDS}_j + \beta_6 \text{IMPULSE}_j + \beta_7 \text{STOCK}_j + \varepsilon_j$$

where

η_j = Promotional elasticity for category j (either featured, displayed, or pure price cut) provided by the IRI *Topical Report* (*P-O-P Times* 1991).

PENET_j = Penetration of category j , that is, the percentage of all households in the *Marketing Factbook* (IRI 1987) sample that purchased category j at least once within a year.

⁷The entire database with all 108 categories is available on request from the authors.

⁵Another way of measuring impulse buying is provided in Rook and Fisher's (1995, p. 308) study.

⁶Hence, not all categories were rated by an equal number of respondents. The average number of respondents per category was 21.2.

TABLE 3
Highest and Lowest Rated Products on Impulse and Ability-to-Stockpile Scales

Impulse Buying			
High Impulse Buying		Low Impulse Buying	
Category	Factor Score	Category	Factor Score
Pastry/Doughnuts	1.17	Diet Pills	-.82
Bath Products	1.04	Floor Cleaners	-.69
Candy/Mints	1.04	Coffee Filters	-.65
Frozen Novelties	1.04	Vinegar	-.65
Chips and Snacks	.97	Rug/Upholstery Cleaner	-.58
Ice Cream	.93	Lard	-.53
Cookies	.89	Milk	-.53
Bakery Snacks	.86	Food and Trash Bags	-.52
Snack Nuts	.83	Bleach	-.51
Ice Cream Cones	.79	Cough Syrup	-.47

Ability to Stockpile			
High Ability to Stockpile		Low Ability to Stockpile	
Category	Factor Score	Category	Factor Score
Canned Seafood	.78	Cottage Cheese	-.72
Coffee	.71	Diet Pills	-.72
Canned Vegetables	.68	Rug/Upholstery Cleaner	-.70
Toilet Tissue	.65	Ice Cream Cones	-.68
Soup	.62	Biscuits/Dough	-.63
Coffee Filters	.61	Milk	-.63
Cigarettes	.58	Sour Cream	-.59
Canned Tomatoes	.57	Pastry/Doughnuts	-.58
Personal Soap	.56	Vinegar	-.55
Pasta	.54	Furniture Polish	-.54

$INTER_j$ = Interpurchase time for category j , specifically, the average number of days between purchases among consumers in the *Marketing Factbook* sample, who made at least two purchases of the category.

$PRICE_j$ = Price level of category j , calculated in the *Marketing Factbook* as the average dollars spent per purchase occasion on category j .

$PLSHR_j$ = Share of private labels in category j , calculated in the *Marketing Factbook* as volume market share in category j for private label and generic brands.

$BRANDS_j$ = Number of brands in category j , provided by the *Marketing Factbook*.

$IMPULSE_j$ = Impulse scale score for category j , calculated from the survey data using the average impulse factor score among consumers rating category j .⁸

$STOCK_j$ = Ability-to-stockpile scale score for category j , calculated from the survey data using the average ability-to-stockpile factor score among consumers rating category j .⁹

Each of the three regression equations was estimated separately with ordinary least squares. We used White's (1980) test to check for heteroscedasticity, and the null hypothesis of no heteroscedasticity could not be rejected. Seemingly unrelated regression was not used, because this yields equivalent results to ordinary least squares' when the independent variables are the same for each regression equation, as they are in our problem. We also conducted pooling tests to determine whether we could combine all three types of promotion and estimate just one model. The hypothesis of one model with different intercepts but the same regression coefficients was rejected in favor of three separate models with three different sets of regression coefficients. As a result, we did not pool the data.

⁸We experimented for both the $IMPULSE$ and $STOCK$ variables by operationalizing them with either the raw factor scores from the factor analysis or a simplified coding of 1, 0, -1. In the simplified coding, categories whose factor scores were more than one standard deviation above the mean were coded as a 1, those whose factor scores were more than one standard deviation below the mean were coded as -1, and all other categories were coded as 0. We found little difference in the results no matter which operationalization was used and report here the results for the 1, 0, -1 coding.

⁹The $STOCK$ variable was coded in the same way as the $IMPULSE$ variable. See footnote 8 for further explanation.

TABLE 4
Descriptive Statistics of Variables

Variable	Mean	Standard Deviation
PENET (%)	58.91	28.45
INTER (Days)	68.25	22.35
PRICE (\$)	2.04	1.17
PLSHR (%)	17.02	15.25
BRANDS	36.44	39.16
IMPULSE	.02	.44
STOCK	-.02	.36
$\eta_{display}^*$	292.87	133.23
$\eta_{feature}^*$	161.12	54.78
$\eta_{pricecut}^*$	33.88	8.11

*These elasticities represent the percentage increase in sales for the specified promotion. The price cut assumed in all circumstances is 15%. We use these numbers as the dependent variables in our regression analysis. In terms of percentage increase in sales per percentage change in price, these elasticities would be restated (by dividing by 15) as 19.5 for displayed price cuts, 10.7 for featured price cuts, and 2.3 for pure price cuts.

Results

In Tables 4 and 5, we display descriptive statistics for the variables analyzed in the regressions. We note three things. First, displayed price cut elasticities are the highest on average, whereas pure price cut elasticities are the lowest. Second, there is generally good variation in the three elasticity measures, as is indicated by the standard deviations. However, the pure price cut elasticities exhibit somewhat lower variation than do the displayed price cut and featured price cut elasticities. Our goal is to explain this variation by using the category characteristics. We see in Table 4 that there is ample variation among these characteristics. Third, fairly strong correlations exist among numbers of brands, category penetration, and interpurchase times. We therefore know in advance that the standard errors for these variables' regression coefficients may be inflated, and weak statistical significance may result. Other than for these three variables, multicollinearity does not appear to be a problem.

In Table 6, we present the regression results for each of the promotion types studied. In terms of overall fit, the R^2 's range from .195 to .285, and each of the F-statistics are sta-

tistically significant at the .01 level. These fits are to be expected for cross-sectional analyses. Note that each regression has significant coefficients, and we now discuss these results for each of the category characteristics studied.¹⁰

Category penetration. H_1 proposes a positive relationship between category penetration and promotional elasticity. This hypothesis is supported. The coefficient for category penetration is positive in all three equations and is significant at the .01 level for featured price cuts and at the .06 level for pure price cuts. From the standardized coefficients, the impact of category penetration is strongest for featured price cuts (.4302 versus .2713 for pure price cuts). This supports H_2 , which states that the effect of category penetration is most strongly felt for featured price cuts. This result, especially when coupled with the nonsignificance of the category penetration variable in the displayed price cut equation, highlights the role of store switching in making category penetration an important determinant of promotional elasticity.

Interpurchase time. H_3 posits that longer interpurchase times should be associated with lower promotional elasticities. This hypothesis is supported. The sign for interpurchase time is negative for all three promotions and significant at the .01 level for displayed price cuts and the .10 level for featured price cuts. The standardized coefficient for interpurchase time is roughly equal for displayed and featured price cuts (-.3104 versus -.2654, respectively).

Price. We did not advance a hypothesis for the relationship between price level and promotional elasticity. The question was how the balance is resolved between the salience of price implied by high expenditures and the high loyalty levels and risk for switching implied by high expenditures. The results suggest that price has an impact on promotional elasticity, but the nature of the relationship differs according to type of promotion. For displayed price cut, we find a negative relationship significant at the .01 level—

¹⁰The statistical strength of our results is comparable to those in Bolton's (1989) work. For example, Bolton reports that 4 of 14 regression coefficients regarding brand or category characteristics are significant at the .05 level. We find that 7 of 21 are significant at that level. The R^2 for Bolton's regression is .26, which is comparable to ours (see Bolton 1989, p. 164).

TABLE 5
Correlations Among the Independent Variables

	PENET	INTER	PRICE	PLSHR	BRANDS	IMPULSE	STOCK
PENET	1						
INTER	-.60 ^a	1					
PRICE	-.22 ^b	-.24 ^b	1				
PLSHR	.16 ^c	-.02	-.33 ^a	1			
BRANDS	.61 ^a	-.62 ^a	-.03	.09	1		
IMPULSE	.06	-.20 ^b	-.08	-.03	.36 ^a	1	
STOCK	.17 ^c	-.16 ^d	.05	-.02	.10	-.15 ^d	1

^a $p < .01$.

^b $p < .05$.

^c $p < .10$.

^d $p < .15$.

Note: Correlations without a superscript are not significant at the .15 level.

TABLE 6
Regression Results

A. Raw Coefficients

Variable	Dependent Variable					
	Displayed Price Cut Elasticity		Featured Price Cut Elasticity		Pure Price Cut Elasticity	
	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value
PENET (%)	.609	.257	.828	.003	.073	.058
INTER (Days)	-1.85	.008	-.651	.065	-.035	.494
PRICE (\$)	-27.85	.009	-4.84	.363	1.98	.013
PLSHR (%)	-.80	.249	-.21	.552	-.07	.167
BRANDS	-.393	.296	-.508	.009	-.064	.024
IMPULSE	8.56	.738	9.48	.468	2.28	.239
STOCK	40.18	.151	41.77	.004	3.44	.103
Intercept	460.80	.000	190.80	.000	31.70	.000
R ²	.231		.285		.195	
F-Statistic (7/100)	4.29	.000	5.70	.000	3.46	.002

B. Standardized Coefficients

Variable	Dependent Variable		
	Displayed Price Cut Elasticity	Featured Price Cut Elasticity	Pure Price Cut Elasticity
PENET (%)	.1300	.4302	.2713
INTER (Days)	-.3104	-.2654	-.0973
PRICE (\$)	-.2455	-.1038	.2875
PLSHR (%)	-.0919	-.0642	-.1368
BRANDS	-.1154	-.3632	-.3111
IMPULSE	.0282	.0761	.1236
STOCK	.1111	.2808	.1564

higher price levels are associated with lower promotional elasticities. The sign is also negative, but not significant, for featured price cuts. For pure price cuts, however, the sign is positive and significant at the .02 level—higher price levels are associated with higher promotional elasticity. This is an interesting and important result that we speculate is due to different market segments using pure price cuts versus displayed price cuts. We elaborate on this in the Discussion section.

Private label share. We did not specify a hypothesis for this variable, because it is not clear a priori whether high private label shares lead to price sensitivity or insensitivity to promotion. Although Table 5 shows the sign of the relationship to be consistently negative, it is not statistically significant for any of the three promotion types.

Number of brands. We did not propose a hypothesis for this variable because the result depends on whether brand proliferation is an indicator of market segmentation (i.e., lessens brand switching) or an indicator that brand loyalty has eroded (i.e., stimulates brand switching). The results suggest that the market segmentation force dominates. The

coefficient for number of brands is significant at the .05 level in two of the three equations (for featured and pure price cuts), and the sign is negative, which means that the typical promotion in categories with many competitors obtains lower response.

Impulse buying. We hypothesized that impulse buying is positively associated with promotional elasticity (H_4), with an especially strong relationship for displayed price cuts (H_5). Although the signs for the impulse-buying scale score in Table 6 are all positive, the coefficients are not statistically significant for any of the three promotion types. We discuss this result subsequently.

Ability to stockpile. H_6 states that the propensity of consumers to stockpile a product category should be associated with higher promotional elasticity. This hypothesis is supported. The sign for the ability-to-stockpile scale score is positive and significant at the .01 level for featured price cuts and at the .10 level for pure price cuts. The effect is strongest for featured price cuts (see the standardized coefficients).

TABLE 7
Summary of Hypotheses and Results

Category Characteristic	Hypothesized Relationship With Promotional Elasticity	Result
Category penetration	+ (H_1)	Supported
Category penetration	+ (especially for featured price cuts) (H_2)	Supported
Purchase cycle	– (H_3)	Supported
Price	No general hypothesis	Negative relationship for displayed price cut Positive relationship for pure price cut
Private label share	No general hypothesis	No significant relationship
Number of brands	No general hypothesis	Negative relationship for featured and pure price cuts
Impulse buying	+ (H_4)	Not supported—no significant relationship
Impulse buying	+ (especially for displayed price cuts) (H_5)	Not supported—no significant relationship
Ability to stockpile	+ (H_6)	Supported

Summary, Discussion, and Managerial Implications

Summary

In Table 7, we provide a summary of our results. Hypotheses regarding category penetration, interpurchase time, and ability to stockpile were supported. These variables have an important and consistent relationship with promotional elasticity, one that we were able to anticipate. Promotions for brands in easily stockpiled high-penetration categories with short interpurchase times should produce large sales increases. It is difficult to find categories that meet all these criteria. However, in our data, these criteria suggest categories such as paper products (towels and toilet tissue), canned products (seafood, tomatoes, and vegetables), and pasta. Promotions for brands in categories that are relatively less readily stockpiled have lower penetration and longer interpurchase times and should yield lower sales increases. In our data, these include such categories as health and beauty aids (cotton balls, first-aid treatment, deodorant, razors, shaving cream, bath products, and suntan lotion) and miscellaneous products (e.g., spices, condensed milk, floor cleaners, foil pans, bottled water). These findings provide managers with a benchmark for assessing whether their promotions are performing as expected.

Discussion

Our results with respect to price are interesting and add some complexity to the previous generalizations. Specifically, we find that the relationship between price and promotional elasticity is negative for displayed price cuts, yet positive for pure price cuts. One explanation for the display result is that consumers want to scrutinize the entire selection of brands when making a large expenditure. They may want to see the price of their favorite brand before switching

to the displayed brand. For this reason, display promotions in high-priced categories are less effective than those in low-priced categories.

These results might also be due to different market segments using different promotions. In particular, Inman, McAlister, and Hoyer (1990) argue that the consumers responding to pure price cuts are more likely to make their purchase decisions on the basis of a detailed analysis of price, whereas the segment that responds to in-store cues, such as displays, relies on simple heuristics. Recall that we saw two forces influencing the relationship between price level and promotional elasticity. On the one hand, high expenditures mean larger absolute savings and high promotion response. At the same time, high expenditures signify greater loyalty, which results in less brand switching. It makes sense that the segment responding to pure price cuts is more likely to recognize higher absolute savings (because this is something they analyze). Hence, they are more responsive to pure price cuts when more money is at stake. However, the consumers responding to displayed price cuts might be less likely to switch brands in high expenditure categories, because they use the display as a cue to save money on the brand they usually buy.

Our results regarding the price variable show the importance of analyzing different types of promotions. This finding would have been masked if we had considered just one indicator of promotion. We also note that the negative relationship between price level and display promotional elasticity is consistent with Fader and Lodish's (1990) finding that categories in which feature and/or display promotions account for a significant percentage of total category volume tend to be priced lower.

One possible explanation for our findings regarding the lack of a relationship between impulse buying and promotional response is that buying on promotion may involve considerable consumer planning and "expert shopping," no-

Table 8
Comparison of Three Product Categories That Are Equal on the Impulse Scale

Scale Variable	Bath Products	Frozen Novelties	Candy/Mints
Impulse Scale	1.04	1.04	1.04
Interpurchase Time (Days)	82	42	49
Price Level (\$)	2.00	2.43	1.82
Displayed Price Cut Elasticity	133.2	275.6	323.8

tions that are inconsistent with impulse buying. Another possibility is that our two-item measure of impulse buying constitutes an incomplete representation of the conceptual domain of the construct. However, this scale was based on previous research and carefully pretested, and Tables 2 and 3 attest to its construct and face validity. The ability-to-stockpile scale, derived from the same data, yields significant results. We also investigated different functional forms for our regression model that still failed to produce significant results for the impulse variable. In addition, we used displayed price cut elasticity divided by pure price cut elasticity as a dependent variable in an effort to isolate the display effect, and the impulse variable still was not significant. Finally, we investigated two different operationalizations for the impulse-buying variable, and both yielded the same results (see footnote 8).

The previous discussion suggests that other variables besides impulse buying are more powerful in explaining cross-category differences in promotion response. We use the regression results reported in Table 5 to shed further light on this idea. In Table 8, we list data for three product categories that are all high on the impulse scale (see Table 3).

All three categories are strongly impulse oriented, but Frozen Novelties and Candy/Mints are much more promotion responsive than Bath Products. The reason is partly attributable to the shorter interpurchase times for both Frozen Novelties and Candy/Mints, and the lower price level for Candy/Mints. The regression coefficient for interpurchase time is -1.85 ; so, a 40-day shorter interpurchase time for Frozen Novelties adds 74 (40×1.85) to its promotional

elasticity compared to Bath Products, whereas a 33-day shorter interpurchase time for Candy/Mints adds 61.05 (33×1.85) to its promotional elasticity relative to Bath Products. Similarly, the coefficient for price level is -27.85 , so the \$.18 lower price for Candy/Mints compared to Bath Products adds 5 to its promotion elasticity.

Another interesting comparison is between a high impulse product (candy or mints) and a low impulse product (diet pills). In Table 9, we show the values for the independent variables for these products, the contribution to displayed price cut elasticity, which is estimated by multiplying these values times the coefficients in Table 6, and the net-predicted versus actual-displayed price cut elasticities.

These results show that there is a drastic difference between these products in their propensity for impulse buying. There is also a strong difference in consumers' responses to displayed price cuts. However, other variables account for this difference, especially category penetration, interpurchase time, price level, number of brands, and ability to stockpile. The regression results indicate that the effect of impulse buying, after controlling for other variables, is so small as not to be significantly different from zero.

The result that private label share has little impact on promotional elasticity, coupled with our not being able to specify an a priori hypothesis for this variable, is symptomatic of an ambiguous relationship. The results imply that by itself high private label share cannot be used as a signal for promotional elasticity. High private label share might signal that consumers in this category are concerned about price or that private labels have been able to establish their

Table 9
Comparison of Two Product Categories That Are Different on the Impulse Scale

	Candy/Mints (high Impulse)		Diet Pills (low Impulse)	
	Independent Variable Value	Estimated Contribution to Elasticity	Independent Variable Value	Estimated Contribution to Elasticity
Category Penetration	91.5	55.70	4.8	2.92
Interpurchase Time	49.0	-90.67	66.0	-122.13
Price Level	1.82	-50.69	4.98	-138.70
Private Label Share	2.4	-1.93	0.0	0.0
Number of Brands	147.	-57.70	3	-1.18
Impulse	1	8.56	-1	-8.56
Ability to Stockpile	0.0	0.0	-1	-40.18
Predicted Displayed Price Cut Elasticity		324.1		153.0
Actual Displayed Price Cut Elasticity		323.8		143.2

high shares because they are resistant to the brand-switching effects of promotions implemented by national brands.

Managerial Implications

Because promotion elasticities are generally higher in easily stockpiled categories, in which there are relatively fewer brands, higher category penetration, and lower interpurchase times, promotion is more likely to be profitable in those categories and hence more likely to be an important marketing instrument (for an example of the linkage between elasticity and profitability, see Blattberg and Neslin 1990, pp. 455–59). Indeed, Fader and Lodish (1990, Table 6, p. 60) find that categories in which feature and display promotion volume is a large proportion of total volume tend to have high penetration, short interpurchase times, and low prices. This is consistent with our results on feature and display elasticities.

We also note that the differences we have uncovered across types of promotion have important implications regarding the right types of promotions to use for different categories. For example, displayed price cuts appear to be especially effective for low-priced categories with short interpurchase times. This justifies retailers asking for large trade allowances to pass through displays for these types of categories. Featured price cuts are especially effective for high penetration, short interpurchase time, and easily stockpiled categories that have few brands. The penetration result in particular is consistent with managerial practice in which category penetration is an important factor that retailers use for deciding which category to feature (McCann, Tadlaoui, and Gallagher 1990).

We note, however, that there are other considerations besides promotion response that affect the decision to promote a brand. For example, Blattberg and Neslin (1993, p. 567) point out that the key issues determining the profitability of a manufacturer's trade promotion are the likelihood that retailers will pass the promotion through to consumers, the extent of forward buying by retailers, and incremental sales generated by retailer promotions. The incremental-sales factor corresponds to promotional elasticity, which is what we investigate in our research. Categories with high promotional elasticities are *candidates* for promotion. However, there should also be a high likelihood of retailer pass through and a low likelihood of forward buying for the promotion to achieve its profit potential. Pass through depends on issues such as the importance of the brand to the retailer and its gross profit margin (e.g., see Curhan and Kopp 1986; Dhar and Hoch 1996; Hoch, Dreze, and Purk 1994; Walters 1989). Forward buying depends on issues such as the retailer's cost of carrying the brand in inventory.

Our result that the number of brands in a category decreases promotional response suggests that brands in such categories should not promote. However, Raju, Srinivasan, and Lal (1990) note that a competitive equilibrium of no promotion is more difficult to sustain as the number of brands in the category increases and that categories with more brands have more promotions. Therefore, competitive pressure is a factor that encourages promotion and must be

weighed against decreased consumer response, which argues against promoting.

Another implication involves our findings regarding ability to stockpile. We find that the ease with which consumers can stockpile the category increases promotional elasticity and encourages promotion in these categories. However, the elasticities measured here are short-term elasticities. To the extent that these elasticities are higher because of stockpiling, the ultimate profitability of promotion may be diminished if much of the "incremental" sales due to promotion is really the result of consumers stockpiling their favorite brands. Therefore, the correct action may be not to promote easily-stockpiled brands (see Neslin, Powell, and Stone 1995).

Finally, the lack of support for a strong relationship between promotional response and the propensity of consumers to purchase the category on impulse suggests that manufacturers should not automatically assume that high impulse categories should be promoted. Managers of such categories should look at additional indicators, such as interpurchase time and price (illustrated in the example of Bath Products versus Frozen Novelties and Candy/Mints), before assuming that the category is highly responsive to promotion. A similar implication holds for private label share. Manufacturers should not interpret high private label share as indicative of a high response to promotion. Private label share could be an indication that promotion is relatively ineffective in this category.

Future Research Directions

Certain limitations of our work provide opportunities for further research. First, though we examine three types of promotion, all are associated with price cuts. It would be interesting to understand how category characteristics influence pure display and feature promotions—though displays and features are often associated with price cuts. Therefore, the promotions we analyze reflect the real world. Second, though we analyze many category characteristics (including impulse buying, which has not been analyzed by any of the previous research), we do not capture all possible characteristics. The degree of new product activity and category concentration (e.g., the combined market share of the four leading brands) would be additional characteristics worth exploring. Third, we focus on promotional elasticity as the dependent variable, but the larger picture involves three dependent variables—promotional elasticity, retailer promotional effort, and category volume purchased on promotion. Fader and Lodish (1990) analyze volume purchased, and we analyze promotional elasticity. A promising avenue for additional research would be to tie these three issues together in a structural model. Volume purchased on promotion essentially equals promotional elasticity times promotional effort. Elasticity and effort are related simultaneously, because high elasticities encourage high effort for economic reasons, whereas high effort influences elasticity negatively through a wear-out effect or positively through the nurturing of a deal-prone segment. Raju (1992) and Bolton (1989) explore this issue by looking at elasticity as a function of effort. Fourth, it might be fruitful to consider different measure-

ment procedures for the impulse and stockpiling variables we consider. We find evidence for the construct and face validity of these variables, but they are difficult concepts to measure, and improvements are always appropriate.

Finally, our focus is at the category level, and this is an important first step in setting promotional strategy across categories. In the final analysis, however, promotional policy must be set for specific *brands*, and more work is needed to understand how promotional elasticities vary across brands within a category. Bolton (1989) has made considerable progress here, but further research would be helpful. Bolton shows that market share is perhaps the most important brand-specific variable influencing brand-specific promotional response. It would be interesting to see how this variable interacts with some of the variables examined in our research—for example, category penetration or stockpiling. Although researching differences in promotion response at the brand level is worthwhile, we make two ob-

servations to suggest that category-level studies such as ours are important. First, Bolton (1989) includes both brand and category effects in her study of interbrand differences in price response. Of eight statistically significant effects, five involve category characteristics and three involve brand characteristics (see Bolton 1989, Table 4, p. 164). Second, Lehmann (1975), in a study of television viewership as a function of income categories, shows that it is possible to find significant effects whether a person uses an aggregate (e.g., category level) or disaggregate (e.g., brand level) dependent variable.

In summary, we examine how category characteristics relate to promotional elasticities and propose a framework that helps in understanding and predicting these relationships. Our goal has been to build on the foundations provided by previous researchers, and we hope researchers will find that our work provides similar opportunities.

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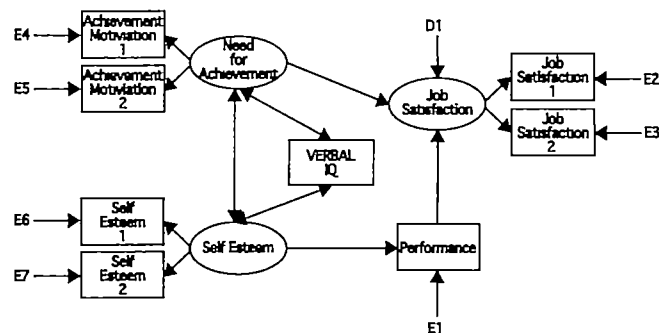
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The Behavioral Consequences of Service Quality

If service quality relates to retention of customers at the aggregate level, as other research has indicated, then evidence of its impact on customers' behavioral responses should be detectable. The authors offer a conceptual model of the impact of service quality on particular behaviors that signal whether customers remain with or defect from a company. Results from a multicompany empirical study examining relationships from the model concerning customers' behavioral intentions show strong evidence of their being influenced by service quality. The findings also reveal differences in the nature of the quality-intentions link across different dimensions of behavioral intentions. The authors' discussion centers on ways the results and research approach of their study can be helpful to researchers and managers.

Delivering quality service is considered an essential strategy for success and survival in today's competitive environment (Dawkins and Reichheld 1990; Parasuraman, Zeithaml, and Berry 1985; Reichheld and Sasser 1990; Zeithaml, Parasuraman, and Berry 1990). During the 1980s, the primary emphasis of both academic and managerial effort focused on determining what service quality meant to customers and developing strategies to meet customer expectations (e.g., Parasuraman, Zeithaml, and Berry 1985, 1988). Since then, many organizations—including those whose primary offerings involve physical goods such as automobiles or computers—have instituted measurement and management approaches to improve their service. The service-quality agenda has now shifted and reconfigured to include other issues. The issue of highest priority today involves understanding the impact of service quality on profit and other financial outcomes of the organization (Greising 1994; Rust, Zahorik, and Keiningham 1995).

Executives of many companies in the 1980s were willing to trust their intuitive sense that better service would lead to improved financial success and thus committed resources to improving service prior to having documentation of the financial payoff. Some of these companies, such as Federal Express and Xerox, have been richly rewarded for their efforts (Germano 1992; Kearns and Nadler 1992). But executives in other companies have been reluctant to invest in service improvements without solid evidence of their financial soundness. And in the current era of downsizing and streamlining, interest in tools to ascertain and monitor the payoff from service investments is high.

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Research on the relationship between service quality and profits has begun to accumulate, and one thing is clear: The link between service quality and profits is neither straightforward nor simple (Greising 1994; Zahorik and Rust 1992). The intermediate links between service quality and profits have not been well understood. To delineate the complex relationship between these two variables, researchers and managers must investigate and understand many other relationships, each of which is an integral part of the composite. One such relationship—between service quality and behavioral intentions—is the primary focus of our present research. In the remainder of this introductory section, we provide a general overview of the extant knowledge about the link between service quality and profits. We then outline our specific objectives and how our study attempts to extend current knowledge.

Seminal studies using the PIMS (Profit Impact of Market Strategy) data set have uncovered significant associations among service quality, marketing variables, and profitability. Findings from these studies show that companies offering superior service achieve higher-than-normal market share growth (Buzzell and Gale 1987), that the mechanisms by which service quality influences profits include increased market share and premium prices (Phillips, Chang, and Buzzell 1983), and that businesses in the top quintile of relative service quality on average realize an 8% higher price than their competitors (Gale 1992). Evidence from companies large enough to have multiple outlets also suggest a positive quality-profitability relationship: The Hospital Corporation of America found a strong link between perceived quality of patient care and profitability across its many hospitals (Koska 1990); and the Ford Motor Company has demonstrated that dealers with high service-quality scores have higher-than-normal profit, return on investment, and profit per new vehicle sold (Ford Motor Company 1990).

Although the previous findings document the financial and strategic impact of service quality across firms or outlets, the evidence is often too general to answer the questions foremost in executives' minds: If I invest in service

quality, will it pay off for my company? How will service quality pay off? How much should we invest in service quality to receive the best return? In addressing such questions, researchers (Fornell and Wernerfelt 1987, 1988; Rust and Zahorik 1993; Zahorik and Rust 1992) distinguish between offensive effects (capturing new customers) and defensive effects (retaining customers). Determining the offensive impact of service quality parallels the age-old search for the advertising-sales connection. Service quality's effects—similar to advertising's effects—are cumulative, and therefore evidence of the link may develop slowly. And, similar to advertising, service quality is one of many variables—including pricing, advertising, efficiency, and image—that simultaneously influence profits. Furthermore, spending on service per se does not guarantee results, because strategy and execution must both be considered.

On the other hand, evaluating the defensive impact of service quality through customer retention promises to help companies gauge the financial impact of service quality. The relationship between retention and profits recently has been estimated by a variety of researchers (e.g., Anderson and Sullivan 1990; Fornell and Wernerfelt 1987, 1988; Reichheld and Sasser 1990) and companies (e.g., IBM). If the relationship between service quality and retention can be similarly documented, the financial implications for a given company or even a given service initiative can be calibrated. Zahorik and Rust (1992) distinguish among five tasks that must be completed to model the impact of service on profits: (1) identifying the key service attributes to include in the model, (2) selecting the most important attributes, (3) modeling the link between programs and attitudes, (4) modeling behavioral response to service programs, and (5) modeling the impact of service programs on profits.

The research we describe involves the first four tasks that Zahorik and Rust (1992) propose and concentrates on the fourth, namely, modeling behavioral response to quality service. All four of these tasks are firmly in the domain of marketing and the first three have been studied extensively in the last decade (for a review, see Zahorik and Rust 1992). In contrast, the fourth attribute, the impact of service quality on behavioral response, has been the subject of only a few marketing studies to date (Boulding et al. 1993; Cronin and Taylor 1992).

The underlying premise of our article is that if service quality relates to retention of customers at the aggregate (i.e., firm) level, as other research has suggested, then evidence of its impact on customers' behavioral responses should be detectable. The consequences of service-quality perceptions on individual-level behavioral intentions can be viewed as signals of retention or defection and are desirable to monitor. With that in mind, our objectives are four-fold:

1. To summarize existing evidence about the behavioral consequences of service quality at the individual customer level.
2. To offer a conceptual model of the impact of service quality on particular behaviors that signal whether customers remain with or defect from the company.
3. To report the results of an empirical study examining relationships between service quality and customers' behavioral intentions.

4. To suggest a research agenda whereby information about individual-level behavioral consequences of service quality can be monitored and linked to sales and customer-retention data to provide ongoing evidence of the financial impact of service quality.

In addressing these objectives, we provide a concise synthesis of the extant literature on the subject and extend the literature in three significant ways. First, our study involves a comprehensive (multicompany/multi-industry) examination of service quality's impact at the individual-consumer level rather than at the company/industry level, as is the case in most previous studies. Second, in addition to examining the general relationship between service quality and behavioral intentions, we explore changes in the strength of this relationship that are due to potential moderating effects of different levels of service relative to customers' expectation levels. Third, we incorporate a more extensive multiple-item behavioral-intentions measure than has been used in previous research and examine service quality's impact on specific types of behavioral intentions.

Conceptual Framework and Hypotheses

Background

Lowering customer defection rates can be profitable to companies. In fact, research has shown that it is a more profitable strategy than gaining market share or reducing costs.¹ For example, in an empirical study linking customer satisfaction to profits, Fornell and Wernerfelt (1987, 1988) examine the impact of complaint-handling programs on customer retention and conclude that marketing resources are better spent keeping existing customers than attracting new ones. In support of this position, Reichheld and Sasser (1990, p. 105) assert that customer defections have a stronger impact on a company's profits than "scale, market share, unit costs, and many other factors usually associated with competitive advantage." For this reason, they extol the benefits of zero customer defections as an overall company performance standard:

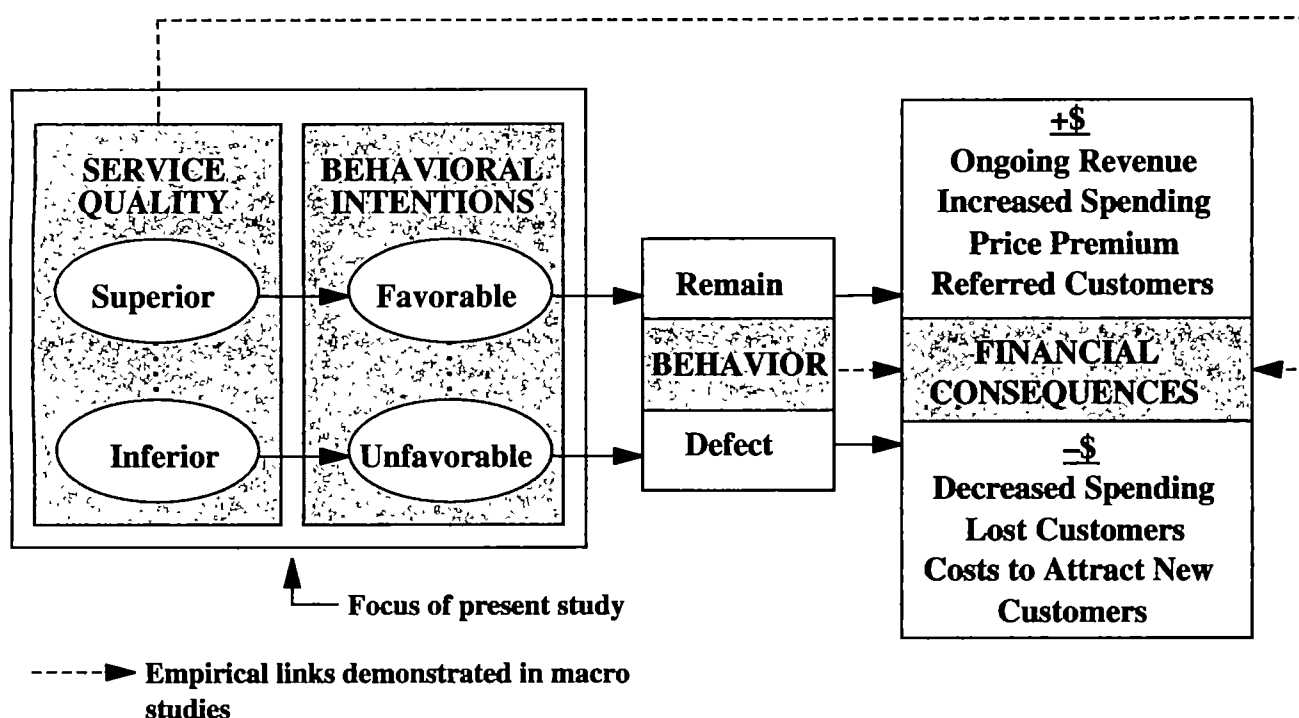
Ultimately, defections should be a key performance measure for senior management and a fundamental component of incentive systems. Managers should know the company's defection rate, what happens to profits when the rate moves up or down, and why defections occur (p. 111).

Research and company efforts to quantify the financial impact of defection and retention have intensified in recent years.

Financial impact of defection. When customers are lost, new ones must be attracted to replace them, and replacement comes at a high cost. Capturing new customers is expensive

¹This is not to say that companies should focus on customer retention to the exclusion of strategies to attract new customers. For instance, share-building strategies should be a high priority for companies that are new entrants or operate in emerging markets. However, for companies with an established customer base (especially in mature markets with entrenched competitors) the net return on investments could be much higher for retention strategies than for strategies to attract new customers.

FIGURE 1
The Behavioral and Financial Consequences of Service Quality



for it involves advertising, promotion, and sales costs, as well as start-up operating expenses. New customers are often unprofitable for a period of time after acquisition: In the insurance industry, for example, the insurer typically does not recover selling costs until the third or fourth year of the relationship. Capturing customers from other companies is also an expensive proposition: Anderson and Sullivan (1990) find that a greater degree of service improvement is necessary to make a customer switch from a competitor than to retain a current customer.

Financial impact of retention. The longevity of a customer's relationship favorably influences profitability. Customers who remain with a firm for a period of years because they are pleased with the service are more likely than short-term customers to buy additional services and spread favorable word-of-mouth communication. The firm also may be able to charge a higher price than other companies charge, because these customers value maintaining the relationship. The initial costs of attracting and establishing these customers have already been absorbed and, due to experience-curve effects, they often can be served more efficiently (Reichheld and Sasser 1990). Rose (1990) supports this view, contending that profit on credit card services purchased by a ten-year customer is on average three times greater than for a five-year customer.

Although the financial impacts of defection and retention have been studied at a macro level (i.e., company or industry level), the micro-level (i.e., individual-level) processes through which these impacts occur have not been well understood. To attempt to fill this void, we develop and test

a conceptual model focusing on individual-level behavioral consequences of service quality.

A Model of the Behavioral Consequences of Service Quality

Figure 1 is a conceptual model that depicts the behavioral consequences of service quality as intervening variables between service quality and the financial gains or losses from retention or defection. The left portion of the model is at the level of the individual customer and proposes that service quality and behavioral intentions are related and, thus, that service quality is a determinant of whether a customer ultimately remains with or defects from a company.

Starting on the left, the model begins with a customer's assessment of service quality and posits that when service quality assessments are high, the customer's behavioral intentions are favorable, which strengthens his or her relationship with the company. When service quality assessments are low, the customer's behavioral intentions are unfavorable and the relationship is more likely to be weakened. Behavioral intentions can be viewed as indicators that signal whether customers will remain with or defect from the company.

Some of the links in Figure 1 (shown by dotted arrows) have been demonstrated empirically in several aggregate-level studies using overall multicompany analysis (e.g., Buzzell and Gale 1987; Gale 1992; Reichheld and Sasser 1990). However, the mediating roles of behavioral intentions and actual behavior on the relationship between service quality and financial performance are not well understood, especially at the individual-customer level. We attempt to add to our knowledge in this regard by undertaking

an in-depth conceptual and empirical examination of the first link in the sequence of effects posited in Figure 1. As we discuss in subsequent sections, multiple measures of service quality and behavioral intentions were operationalized and used in surveys of customers from four different companies. For ease of exposition in this section, the dependent construct is split broadly into favorable and unfavorable behavioral intentions.

Favorable behavioral intentions. Certain behaviors signal that customers are forging bonds with a company. When customers praise the firm, express preference for the company over others, increase the volume of their purchases, or agreeably pay a price premium, they are indicating behaviorally that they are bonding with the company. Recent research offers some evidence that customer satisfaction and/or service-quality perceptions positively affect intentions to behave in these ways. However, most of the research operationalizes behavioral intentions in a unidimensional way rather than delineate specific types of behavior. For example, Cronin and Taylor (1992), using a single-item purchase-intention scale, find a positive correlation with service quality and customer satisfaction. Anderson and Sullivan (1990), in analyzing data from a study of customer satisfaction among Swedish consumers, find that stated repurchase intention is strongly related to stated satisfaction across product categories. A study conducted by Woodside, Frey, and Daly (1989) uncovers a significant association between overall patient satisfaction and intent to choose the hospital again.

Several studies have examined the association between service quality and more specific behavioral intentions. In previous studies (see Parasuraman, Berry, and Zeithaml 1991a; Parasuraman, Zeithaml, and Berry 1988), we find a positive and significant relationship between customers' perceptions of service quality and their willingness to recommend the company. Boulding and colleagues (1993), in one of two studies they conducted, find a positive correlation between service quality and a 2-item measure of repurchase intentions and willingness to recommend. In a second study involving university students, they find strong links between service quality and behavioral intentions that are of strategic importance to the school, including saying positive things about the school, planning to contribute money to the class pledge on graduation, and planning to recommend the school to employers as a place from which to recruit.

Individual companies are also monitoring the impact of service quality on selected behavioral intentions. For example, Northwest Airlines found that the *preference index* (i.e., the preference for Northwest Airlines as the airline passengers like to fly) increased substantially in 1992, compared to 1991, following a major company effort to improve service. As measured in random surveys, preference rose in Minneapolis (from 70% to 75%), Detroit (from 49% to 59%), and Memphis (from 48% to 63%) (*Executive Report on Customer Satisfaction* 1992). Toyota found that intent to repurchase a Toyota automobile increased from a base of 37% to 45% with a positive sales experience, from 37% to 79% with a positive service experience, and from 37% to 91% with both positive sales and service experiences (McLaughlin 1993).

By integrating research findings and anecdotal evidence, a list of specific indicators of favorable behavioral intentions can be compiled. These include saying positive things about the company to others (Boulding et al. 1993), recommending the company or service to others (Parasuraman, Berry, and Zeithaml 1991a; Parasuraman, Zeithaml, and Berry 1988; Reichheld and Sasser 1990), paying a price premium to the company, and remaining loyal to the company (LaBarbera and Mazursky 1983; Newman and Werbel 1973; Rust and Zahorik 1993). Loyalty may be manifested in multiple ways; for example, by expressing a preference for a company over others, by continuing to purchase from it, or by increasing business with it in the future.

Unfavorable behavioral intentions. Customers perceiving service performance to be inferior are likely to exhibit behaviors signaling they are poised to leave the company or spend less with the company. These behaviors include complaining, which is viewed by many researchers as a combination of negative responses that stem from dissatisfaction and predict or accompany defection (Richins 1983; Scaglione 1988).

Complaining behavior itself is conceptualized as multifaceted. According to Singh (1988), dissatisfaction leads to consumer-complaining behavior (CCB) that is manifested in *voice responses* (such as seeking redress from the seller), *private responses* (negative word-of-mouth communication), or *third-party responses* (taking legal action). His three-dimensional typology of complaining behavior, founded on the object of the complaints (seller, friend, third party), is statistically superior to previous models of CCB. Maute and Forrester (1993) find strong support for a three-way classification of dissatisfaction responses based on Hirschman's (1970) exit, voice, and loyalty responses (loyalty being the decision to remain with the company despite dissatisfaction). Solnick and Hemenway (1992) observe that though voice and exit (in their view the two main behavioral manifestations of dissatisfaction) can be substitutes for each other, they often occur together. In the context of a health maintenance organization, they find that complaining customers were four and one-half times more likely to leave the plan voluntarily than noncomplaining customers.

Specific indicators of unfavorable behavioral intentions suggested by the preceding discussion include different types of complaining (e.g., complaining to friends or external agencies) and contemplation of switching to competitors. Another indicator of eventual defection is a decrease in the amount of business a customer does with a company.

Differential impact of service-quality levels. Although superior service is likely to foster favorable behaviors and reduce the likelihood of unfavorable behaviors, an important unresolved issue is the service-quality level that companies must target to have the desired impact on behaviors. How much service quality is enough to retain customers? Is there a level of service beyond which there are diminishing returns in terms of strengthening behavioral intentions? Does the degree of association between service quality and behavioral intentions change at different quality levels?

Little published evidence directly addresses these questions. However, a study by Gale (1992), which quantitative-

ly assesses the relationship between level of service quality and willingness to purchase at AT&T, offers some indirect insight. Of AT&T's customers who rated the company's overall quality as excellent, over 90% expressed willingness to purchase from AT&T again. For customers rating the service as good, fair, or poor, the percentages decreased to 60%, 17%, and 0%, respectively. According to these data, willingness to repurchase increased at a steeper rate (i.e., by 43%) as the service-quality rating improved from fair to good than when it went from poor to fair (17%) or from good to excellent (30%). These results suggest that the impact of service quality on willingness to repurchase is most pronounced in some intermediate level of service quality.

Coyne (1989, p. 73), however, makes the opposite prediction on the basis of research relating to the impact of customer satisfaction with service in a consumer-durable context:

There appear to be thresholds of service for affecting customer behavior.... When satisfaction rose above a certain threshold, repurchase loyalty climbed rapidly. In contrast, when satisfaction fell below a different threshold, customer loyalty declined equally rapidly. However, between these thresholds, loyalty was relatively flat. I believe this twin threshold framework applies to a wide variety of service situations.

A similar categorization of service levels follows one definition of service quality in the literature—the extent to which a service meets or exceeds customer expectations (Parasuraman, Zeithaml, and Berry 1985, 1988)—and from recent research explicating the expectations construct as two levels of expectations (Zeithaml, Berry, and Parasuraman 1993). The first level is *desired service*, which is the level of service the customer hopes to receive, consisting of a blend of what the customer believes can and should be delivered. The second, lower level of expectations is *adequate service*, which is the level of service the customer will accept. Adequate service is the minimum service a company can provide and still hope to meet customers' basic needs. A zone of tolerance, bounded on the lower end by adequate service and on the upper end by desired service, captures the range of service within which a company is meeting customer expectations.

Although the zone-of-tolerance framework seems structurally similar to Coyne's (1989) twin-threshold framework, the managerial implications of the two frameworks are different. Coyne, invoking the flat satisfaction-loyalty relationship he hypothesizes between the two thresholds, suggests that unless a company already has a strong reputation for service, it may not benefit by improving service much beyond the lower threshold: "If a company is already above the minimum acceptable threshold, but nearer the lower end of the service satisfaction band, investments to incrementally change position may not be warranted" (p. 75). In contrast, we have argued previously (see Parasuraman, Berry, and Zeithaml 1991b, p. 47) that firms operating within the zone of tolerance, while possibly enjoying competitive advantage, should continue to improve service, even to the point of exceeding the desired service level: "To develop a true customer franchise—*unwavering* customer loyalty—firms must exceed not only the adequate service level but also the desired service level." Although we do not refer to

the slope of the service performance–loyalty relationship, our prior recommendation implies an upward-sloping (rather than flat) relationship within the zone of tolerance.

Available evidence suggests that the sensitivity of behavioral intentions to changes in service quality is likely to vary from below to within to above the zone of tolerance, though there is no consensus about the nature of this variation across the three regions of quality. A key empirical question is whether the relationship between behavioral intentions and service quality is flat or upward sloping within the zone of tolerance and, if it is upward sloping, whether or not it is steeper than the relationship below and above the zone.

The discussion in the preceding sections implies that, though service quality is positively associated with favorable behavioral intentions and negatively related to unfavorable behavioral intentions, customers' perceptions of the service relative to their adequate and desired service levels moderate these associations. More formally, we posit,

H₁: The service quality–behavioral intentions relationship (a) is positive (negative) for favorable (unfavorable) behavioral intentions and (b) has a different slope below and above the zone of tolerance relative to within it.

Impact of problem experience and resolution. Another aspect of service provision that can influence behavioral intentions involves the problem experience of customers. When customers encounter service problems, these experiences are likely to affect behavioral intentions adversely. However, the impact of problem resolution on customers' intentions is less clear. One view, based primarily on anecdotal evidence, is that superior problem resolution forges stronger bonds between customers and the company than would exist had no service problem occurred. For example, J. W. Marriott, chief executive officer of the Marriott hotel chain, states: "Sometimes those [disgruntled] customers whom you make that extra effort to gain back become the most loyal customers that you have" (Lovelock 1994, p. 214). The reasoning underlying this view seems to be that a service problem gives a company the opportunity to demonstrate its commitment to customer service through excellent recovery efforts. On the other hand, empirical evidence suggests that service failures may weaken the customer-company bond even when the problem is resolved satisfactorily (Bolton and Drew 1992). We report (see Zeithaml, Parasuraman, and Berry 1990) that customers who experienced no recent service problem with a company have significantly better service-quality perceptions than customers who experienced a recent service problem that was satisfactorily resolved. A plausible explanation for this finding is that satisfactory problem-resolution service, though perhaps pleasing to customers, does not cause them to forget the service failure. And the memory of the failed service negatively affects customers' overall perception of the company's service. The existing empirical evidence on this question leads to our second hypothesis:

H₂: Favorable (unfavorable) behavioral intentions are (a) highest (lowest) for customers experiencing no service problem; (b) next highest (lowest) for customers experiencing service problems that are resolved, and (c) lowest (highest)

for customers experiencing service problems that are not resolved.

In summary, the first hypothesis suggests a positive (negative) relationship between service quality and favorable (unfavorable) behavioral intentions, the strength of which is different below and above the zone of tolerance relative to that within it. H_1 , along with H_2 , is depicted in Figure 2, which details the portion of the behavioral consequences model on which we focus in the present study.

Methodology

Sample Design and Mail Survey

Four companies that provide services to end or business customers were sponsors of the research study. Questionnaires were mailed to business customers of a computer manufacturer, as well as to end customers of a retail chain, automobile insurer, and life insurer. The sponsoring companies generated mailing lists from their current customer bases. The retail chain, automobile insurer, and life insurer each provided random samples of 2400 customers. The computer manufacturer provided a larger random sample of 5270 customers, because it wanted to conduct its own detailed, segment-by-segment analysis following the completion of the main study. A total of 12,470 questionnaires were mailed.

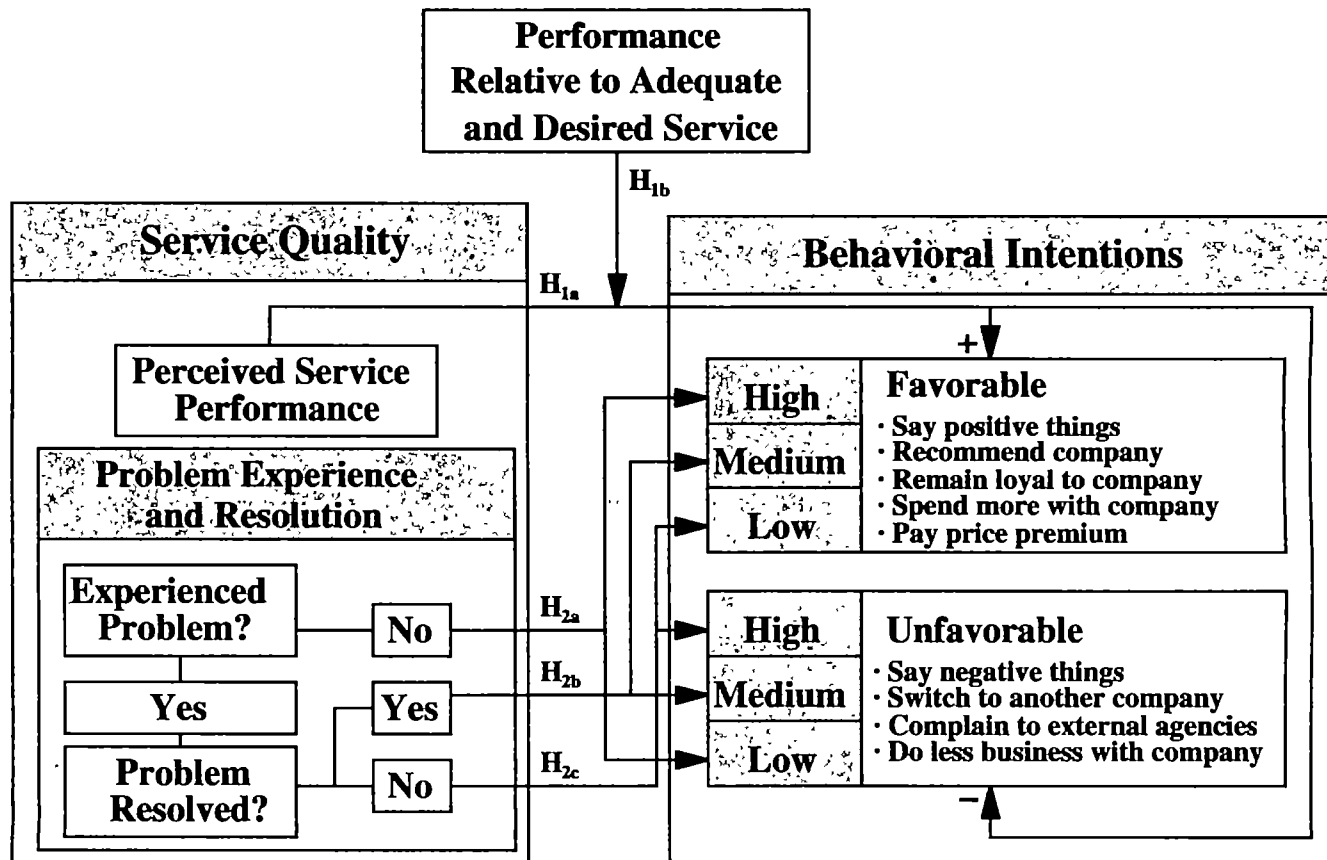
Surveys were mailed with a cover letter and postage-paid return envelope to all customers in the sample. The cover letter appeared on company letterhead and was signed by a senior company official. Respondents were requested to return completed questionnaires to a marketing research company hired to assist with data collection and coding. A reminder postcard was sent two weeks after mailing the questionnaires.

Overall response rate was 25% (3069 questionnaires). Company-specific response rates were 30% (1566 questionnaires) for the computer manufacturer; 22% (522 questionnaires) for the retail chain; 24% (568 questionnaires) for the automobile insurer; and 17% (413 questionnaires) for the life insurer. Demographic profiles of the respondent samples were reviewed by managers in the respective companies and considered to be representative of their customer bases.

Survey Instrument

Operationalization of service quality. Several measures of service quality were included in the questionnaire: (1) an overall, single-item rating scale with anchors at 1 (extremely poor) and 9 (extremely good); (2) a multiple-item scale of perceived service from an expanded version of the SERVQUAL scale we originally developed (see Parasuraman, Zeithaml, and Berry 1988) and later refined (see Parasuraman, Berry, and Zeithaml 1991a); and (3) two categori-

FIGURE 2
Hypothesized Effects of Service Quality on Behavioral Intentions



cal questions to measure whether respondents had experienced a recent service problem with the company and, if so, whether the problem was resolved to their satisfaction.

The second measure (i.e., the revised SERVQUAL battery) represented the service dimensions of reliability (five items), responsiveness (three items), assurance (four items), empathy (four items), and tangibles (five items). Consistent with the expanded conceptualization of customers' service expectations (Zeithaml, Berry, and Parasuraman 1993), respondents were asked to indicate their adequate- and desired-service levels in addition to their perceptions of each SERVQUAL item. Thus, separate ratings of adequate, desired, and perceived service were obtained on three 9-point scales (1 = low, 9 = high) arranged as three adjacent columns next to the SERVQUAL battery on the questionnaire.²

The questionnaire containing the SERVQUAL battery with the three columns of ratings used in this study was one of three different questionnaire formats evaluated in a larger methodological study (Parasuraman, Zeithaml, and Berry 1994a). As such, the adequate-, desired-, and perceived-service scores used in the present study were based on a partial sample from each company (the other two questionnaire formats did not produce separate scores for these variables). A total of 1009 questionnaires contained scores for the adequate-, desired-, and perceived-service variables: 498 from the computer manufacturer, 188 from the retail chain, 191 from the automobile insurer, and 132 from the life insurer. All three questionnaire formats contained measures for the remaining study variables (overall service quality, behavioral intentions, and incidence of service-problem experience and satisfactory problem resolution). Therefore, scores for these variables were based on the full sample.

Operationalization of behavioral intentions. Previous research has not captured the full range of potential behaviors likely to be triggered by service quality. Cronin and Taylor (1992) focus solely on purchase intentions and measure the construct with a single-item scale. In the first of two studies by Boulding and colleagues (1993), repurchase intentions and willingness to recommend were the only two behavioral intentions measured. In the second study, involving service quality of an educational institution, they used a 6-item scale comprised largely of education-specific items, such as intent to contribute money to the class pledge and intent to recommend the school to employers as a place to recruit.

A 13-item battery was developed to gauge a wider range of behavioral intentions than have been suggested in the literature or by anecdotal evidence from companies.³ This battery included items to capture several facets of behavioral intentions not incorporated in previous service-quality studies: likelihood of paying a price premium and remaining loyal to a company even when its prices go up, intent to do more business with the firm in the future, and complaint in-

tentions when service problems occur. The 13 items were grouped into four a priori categories: word-of-mouth communications, purchase intentions, price sensitivity, and complaining behavior. (These groupings were not made known to respondents.) The last two categories contained items not included in prior service-quality research. Each item was accompanied by a 7-point likelihood scale (1 = not at all likely, and 7 = extremely likely).

Analyses, Results, and Discussion

Dimensions of Behavioral Intentions

Factor analysis of the behavioral-intentions battery was conducted to examine the dimensionality of the items. Because the battery was designed to represent four categories of behavioral intentions, a four-factor solution was obtained separately for each company and subjected to oblique rotation to allow for potential correlation among the categories. The item clusters implied by the factor loadings differed from the a priori clusters and varied somewhat across the four companies. The general patterns of loadings suggested that a five-factor solution may help reconcile these differences. A five-factor solution produced an unambiguous factor pattern that was consistent across all companies. This consistent pattern suggested a reconfiguration of the 13 items into five dimensions: *loyalty to company* (loyalty), *propensity to switch* (switch), *willingness to pay more* (pay more), *external response to problem* (external response), and *internal response to problem* (internal response). In Table 1, we present the reconfigured behavioral-intentions battery, and in Table 2, we present the factor-loading matrices supporting it, along with reliability coefficients for its multiple-item components.

Of the five factors, loyalty (with five items) and pay more (with two items) exhibit consistent patterns of loadings across the four companies. Switch (with two items) and external response (with three items) also display a moderate to high degree of uniformity in factor loadings. The final dimension, internal response, contains just one item that loads on the fifth factor.

The 5-item loyalty scale has excellent internal consistency, which is evidenced by alphas ranging from .93 to .94 across the four companies. The 3-item external-response scale has alphas of at least .6, with the values in two of the four companies exceeding the threshold of .7 that Nunnally (1978) suggested. The 2-item scales measuring switch and pay more have somewhat weaker alphas, with several values falling below .6, perhaps because of too few items in the reconfigured factors. In general, the alpha score for loyalty is high, particularly for an early study. The alpha scores for the other three factors with multiple items range from adequate to weak, indicating the need to add items to the scale in further research.

Although the factor structure of the behavioral-intentions battery differs somewhat from the a priori specification, the loadings support the dichotomy in behavioral intentions of favorable and unfavorable categories. The largest factor, loyalty, contains five favorable behavioral-intentions items: saying positive things about the company, recom-

²The adequate- and desired-level service ratings were used in defining the lower and upper boundaries of the zone of tolerance to verify the differential slopes predicted by H_{1b} for the quality-intentions relationship.

³A copy of the instrument containing the behavioral-intentions and service-quality questions can be obtained from the third author.

TABLE 1
Behavioral-Intentions Battery^a

Behavioral-Intentions Dimension	Item Label	Item Wording
Loyalty	I1	Say positive things about XYZ to other people.
	I2	Recommend XYZ to someone who seeks your advice.
	I3	Encourage friends and relatives to do business with XYZ.
	I4	Consider XYZ your first choice to buy ——— services.
	I5	Do more business with XYZ in the next few years.
Switch	I6	Do less business with XYZ in the next few years (–).
	I7	Take some of your business to a competitor that offers better prices (–).
Pay More	I8	Continue to do business with XYZ if its prices increase somewhat.
	I9	Pay a higher price than competitors charge for the benefits you currently receive from XYZ.
External Response	I10	Switch to a competitor if you experience a problem with XYZ's service.
	I11	Complain to other customers if you experience a problem with XYZ's service.
	I12	Complain to external agencies, such as the Better Business Bureau, if you experience a problem with XYZ's service.
Internal Response	I13	Complain to XYZ's employees if you experience a problem with XYZ's service.

^aThe items were grouped as follows in the a priori categorization of the battery: Word-of-Mouth Communications—I1, I2, I3; Purchase Intentions—I4, I5, I6; Price Sensitivity—I7, I8, I9; Complaining Behavior—I10, I11, I12, I13. Each item was accompanied by a 7-point likelihood scale (1 = not at all likely and 7 = extremely likely). Items identified with a "–" were reverse scored.

mending the company to someone who seeks advice, encouraging friends and relatives to do business with the company, considering the company the first choice from which to buy services, and doing more business with the company in the next few years. Pay more contains two favorable items: continuing to do business with the company even if its prices increase somewhat and paying a higher price than competitors charge for the benefits currently received from the company.

The second and fourth factors comprise all unfavorable behavioral-intentions items. Switch contains two of these: doing less business with the company in the next few years and taking some business to a competitor that offers better prices. External response includes items that relate to experiencing a service problem: switching to a competitor, complaining to other customers, and complaining to external agencies such as the Better Business Bureau.

The interpretation of internal response, the fifth factor with one item (complaining to the company's employees if a service problem is experienced), is unclear. Customers more favorably disposed toward a company may be more likely to complain internally to give the company a "second chance." Conversely, disgruntled customers with an unfavorable image of the company may be more likely to complain internally to vent their frustrations. The equivocal interpretation of this factor and its being represented by just one item undermine its meaningfulness on conceptual and psychometric grounds. As such, we deleted this single-item measure from all subsequent analyses.

Relationship Between Service Quality and Behavioral Intentions

The first hypothesis predicted a positive (negative) quality-intentions relationship for favorable (unfavorable) behavioral intentions, with different slopes below and above the

zone of tolerance relative to within it. This hypothesis was tested by using multiple regression analysis to examine simultaneously (1) whether the slope of the relationship within the zone of tolerance was significantly different from zero and (2) whether this slope differed significantly from the slopes below and above the zone of tolerance. In accordance with procedures discussed by Cohen and Cohen (1983, Chapter 8) for conducting this type of analysis, the following regression equation was estimated:

$$(1) \quad Y = B_0 + B_{d1}d_1 + B_{d2}d_2 + B_1X + B_2d_1X + B_3d_2X + \epsilon,$$

where

Y = behavioral-intentions score;

X = service-quality score;

d₁ = dummy variable with a value of 1 if the perceived service is below the zone of tolerance, 0 otherwise;

d₂ = dummy variable with a value of 1 if the perceived service is above the zone of tolerance, 0 otherwise;

Bs = *unstandardized* regression coefficients; and

ε = error term.

The coefficients in Equation 1 that are relevant for examining the first hypothesis are B₁, B₂, and B₃. Specifically, B₁ represents the slope of the quality-intentions relationship within the zone of tolerance, whereas B₂ and B₃ represent changes in B₁ below and above the zone of tolerance, respectively. Thus, B₁ + B₂ represents the slope below the zone, and B₁ + B₃ represents the slope above the zone.

Service quality (the key independent variable X) was operationalized in two ways: as the rating on the 9-point overall-quality (OQ) scale and as a weighted-average perceived performance (WP) score across the SERVQUAL dimensions. Of late there has been debate in the literature about the most appropriate way to operationalize service quality (cf. Brown, Churchill, and Peter 1993; Cronin and

TABLE 2
Factor Loading Matrices and Reliability Coefficients (Alphas) for Behavioral-Intentions Dimensions^a

	Computer Manufacturer					Retail Chain					Automobile Insurer					Life Insurer					Combined Sample				
	F1	F2	F3	F4	F5	F1	F2	F3	F4	F5	F1	F2	F3	F4	F5	F1	F2	F3	F4	F5	F1	F2	F3	F4	F5
B-I Items ^b	F1	F2	F3	F4	F5	F1	F2	F3	F4	F5	F1	F2	F3	F4	F5	F1	F2	F3	F4	F5	F1	F2	F3	F4	F5
Loyalty [α]	[.93]					[.94]					[.94]					[.93]					[.94]				
I1	93	—	—	—	—	94	—	—	—	—	91	—	—	—	—	97	—	—	—	—	96	—	—	—	—
I2	97	—	—	—	—	94	—	—	—	—	94	—	—	—	—	95	—	—	—	—	96	—	—	—	—
I3	93	—	—	—	—	93	—	—	—	—	95	—	—	—	—	94	—	—	—	—	94	—	—	—	—
I4	65	—	—	—	—	79	—	—	—	—	87	—	—	—	—	87	—	—	—	—	79	—	—	—	—
I5	63	—	—	—	—	83	—	—	—	—	78	—	—	—	—	62	—	—	32	—	73	—	—	—	—
Switch [α]	[.67]					[.53]					[.63]					[.49]					[.61]				
I6	—	71	—	—	—	—	73	—	—	—	—	90	—	—	—	—	95	—	—	—	—	72	—	—	—
I7	—	83	—	—	—	—	85	—	—	—	—	74	—	—	—	—	—	70	—	—	—	83	—	—	—
Pay More [α]	[.73]					[.60]					[.68]					[.52]					[.69]				
I8	—	—	79	—	—	—	—	75	—	—	—	—	77	—	—	—	—	70	—	—	—	—	75	—	—
I9	—	—	88	—	—	—	—	89	—	—	—	—	94	—	—	—	—	93	—	—	—	—	92	—	—
External Response [α]	[.60]					[.67]					[.76]					[.77]					[.70]				
I10	—	—	—	66	—	—	—	—	88	—	—	—	—	—	83	—	—	—	82	—	—	—	—	74	—
I11	—	—	—	71	—	—	—	—	82	—	—	—	—	—	81	—	—	—	76	—	—	—	—	78	—
I12	—	—	—	84	—	—	—	—	33	60	—	—	—	—	76	—	—	—	61	45	—	—	—	79	—
Internal Response [α]	[.—]					[.—]					[.—]					[.—]					[.—]				
I13	—	—	—	—	89	—	—	—	—	95	—	—	—	—	—	99	—	—	—	85	—	—	—	—	89

^aNumbers within brackets are reliability coefficients. The other numbers are factor loadings obtained after oblique rotation of the initial solutions (all loadings have been multiplied by 100). Loadings of less than .3 have been omitted. The total variance extracted by the five factors is 77%, 79%, 80%, and 78%, and the average interfactor correlation is .23, .22, .21, and .14 for the computer manufacturer, retail chain, automobile insurer, and life insurer, respectively.

^bBehavioral-intentions labels I1 through I13 correspond to those of the items listed in Table 1.

Taylor 1992; Parasuraman, Berry, and Zeithaml 1993; Parasuraman, Zeithaml, and Berry 1994b; Teas 1993). The central issue in this debate is whether service quality should be measured as the difference between customers' perceptions and expectations ratings or simply as the perceptions ratings. Although this issue continues to be debated, there is some agreement that a study's purpose may influence the choice of which measure to use: The perceptions-only operationalization is appropriate if the primary purpose of measuring service quality is to attempt to explain the variance in some dependent construct; the perceptions-minus-expectations difference-score measure is appropriate if the primary purpose is to diagnose accurately service shortfalls (Parasuraman, Zeithaml, and Berry 1994a). The purpose of our present study is the former. Moreover, as we discuss subsequently, the two expectations measures (i.e., the adequate- and desired-service levels) were independently incorporated into the analysis to operationalize the two dummy variables d_1 and d_2 . Therefore, the ratings from the SERVQUAL portion of the survey were used to operationalize service quality as weighted-average *performance* scores, rather than *difference* scores.

To determine WP, a perceived performance rating was first computed for each SERVQUAL dimension by averaging the ratings on the items forming the dimension. (The coefficient alpha values for reliability [five items], responsiveness [three items], assurance [four items], empathy [four items] and tangibles [five items] ranged from .80 to .96 across the four samples.) To obtain the WP score, the average performance ratings for the dimensions were then weighted by the relative importance of the dimensions. To measure the relative importance of the five dimensions, respondents were asked to allocate 100 points among the dimensions according to how important each dimension was to them in evaluating a company's service. The relative points allocated to the dimensions were used as weights in computing the WP score.

The dummy variables d_1 and d_2 were operationalized by comparing each respondent's WP score with his or her weighted-average adequate- and desired-service scores (computed using a procedure similar to that used in determining WP). The d_1 value was 1 if WP was less than the weighted-average adequate-service score, 0 otherwise. The d_2 value was 1 if WP was greater than the weighted-average desired-service score, 0 otherwise.

The regression analysis was performed separately for the four companies, as well as for the combined sample. In each instance, two equations were estimated for each behavioral-intentions dimension: one using WP scores and the second using OQ scores as values for the independent variable X. The average score across items comprising the behavioral-intentions dimension represented the dependent variable Y. In Table 3, we summarize the regression-analysis results pertaining to the first hypothesis.

The regression coefficients in the first two columns of Table 3 (B_1 values) offer strong support for the hypothesized quality-intentions links within the zone of tolerance. The coefficients for WP and OQ are all in the hypothesized directions—positive for loyalty and pay more and negative for

switch and external response—and, with few exceptions, are statistically significant at $p < .01$. The pattern of B_1 values across the four companies suggests that the effects are generally stronger for loyalty and switch than for pay more and external response. The results for the combined sample provide additional insight into the relative influences of service quality on the four behavioral-intentions dimensions: the strongest effects of both WP and OQ are on loyalty (.70 and .55), followed by switch (−.67 and −.47), pay more (.43 and .37), and external response (−.28 and −.21) in that order.

The regression coefficients in Table 3 in the columns for B_2 and B_3 values pertain to the differential effects predicted by H_1 (the statistically significant B_2 and B_3 coefficients are boldfaced). For each behavioral-intentions dimension within a given company, the B_2 coefficients for WP and OQ have the same sign except in a few instances. Similarly, the signs of the B_3 coefficients are identical for WP and OQ. The stability in the signs of the slope-change coefficients across two different service-quality measures is encouraging in terms of drawing inferences about the *direction* of changes in the quality-intentions link below and above the zone of tolerance. However, support for the strength of these changes is mixed, as is evidenced by the pattern of statistical significance of these coefficients. Therefore, based on the presence of significant coefficients for at least one of the two service-quality measures (WP and OQ), only the following inferences seem warranted.

In the computer-manufacturer sample, the quality-intentions relationship for loyalty and switch is flatter above the zone of tolerance (implying diminished sensitivity to quality improvements beyond the desired-service level), but is unchanged below the zone of tolerance. The relationship for pay more is flatter both below and above the zone. In the retail-chain sample, the relationship for loyalty, switch, and external response is flatter below the zone of tolerance but remains unchanged above the zone of tolerance (implying undiminished returns for quality beyond the desired-service level). In the automobile-insurer sample, the relationship for loyalty is steeper below the zone of tolerance but remains unchanged above the zone. However, the relationship for switch is flatter below the zone and considerably steeper above the zone, which implies that there are increasing payoffs as service improves from below to within to above the zone. The relationship for external response in the automobile-insurer sample is similar to that in the retail-chain sample (i.e., flatter below the zone but unchanged above it). All of the slope-change coefficients in the life-insurer sample are nonsignificant. This lack of significance may be due to insufficient data points below and above the zone—only 15 respondents in the life-insurer sample had WP scores below, and only 8 had WP scores above the zone. A similar deficiency may account for the lack of significance of any of the B_3 coefficients in the retail-chain sample; only 16 respondents had WP scores above the zone.

In the combined sample, the quality-intentions relationship for loyalty and switch is flatter below but remains unchanged above the zone. Thus, exceeding the adequate-service threshold can sharply increase the payoffs (in terms of fostering customer loyalty and curtailing propensity to

TABLE 3
Regression Analysis Results

Independent Variable (X)	Change In Slope:												Adjusted R-squared Values ^b		
	Slope Within Zone of Tolerance (B ₁) ^a			Below Zone of Tolerance (B ₂)			Above Zone of Tolerance (B ₃)								
	Zone of Tolerance (B ₁) ^a			of Tolerance (B ₂)			of Tolerance (B ₃)			of Tolerance (B ₃)			R-squared Values ^b		
	WP	OQ		WP	OQ		WP	OQ		WP	OQ		WP	OQ	
Computer Manufacturer															
Loyalty	.67	.58		-.09 (ns)	-.02 (ns)		-.15 (ns)	-.23 (<i>p</i> < .1)		.37	.41				
Switch	-.55	-.44		.23 (ns)	.08 (ns)		.33 (ns)	.36 (<i>p</i> < .1)		.14	.15				
Pay More	.56	.54		-.23 (<i>p</i> < .1)	-.25 (<i>p</i> < .05)		-.29 (ns)	-.52 (<i>p</i> < .01)		.16	.19				
External Response	-.2	-.12 (ns)		-.08 (ns)	-.09 (ns)		.21 (ns)	.03 (ns)		.08	.07				
Retail Chain															
Loyalty	.78	.56		-.33 (<i>p</i> < .1)	-.11 (ns)		-.29 (ns)	-.23 (ns)		.39	.46				
Switch	-.69	-.33		.46 (<i>p</i> < .05)	.12 (ns)		.74 (ns)	.29 (ns)		.20	.15				
Pay More	.43	.18 (ns)		-.22 (ns)	.02 (ns)		-.85 (ns)	-.28 (ns)		.19	.17				
External Response	-.47	-.25 (<i>p</i> < .05)		.43 (<i>p</i> < .05)	.29 (<i>p</i> < .05)		.16 (ns)	.15 (ns)		.20	.19				
Automobile Insurer															
Loyalty	.78	.49		-.08 (ns)	.25 (<i>p</i> < .1)		-.15 (ns)	-.01 (ns)		.50	.47				
Switch	-.87	-.63		.45 (<i>p</i> < .1)	.24 (ns)		-.73 (<i>p</i> < .1)	-.69 (<i>p</i> < .05)		.28	.28				
Pay More	.39	.32		-.15 (ns)	.05 (ns)		-.14 (ns)	-.13 (ns)		.11	.15				
External Response	-.57	-.57		.55 (<i>p</i> < .1)	.52 (<i>p</i> < .05)		.15 (ns)	.45 (ns)		.20	.13				
Life Insurer															
Loyalty	.72	.52		.10 (ns)	.14 (ns)		.52 (ns)	1.27 (ns)		.68	.62				
Switch	-.45	-.37		.14 (ns)	.13 (ns)		.92 (ns)	1.12 (ns)		.28	.30				
Pay More	.40	.38		-.05 (ns)	-.10 (ns)		.25 (ns)	.62 (ns)		.08 (<i>p</i> < .1)	.12 (<i>p</i> < .05)				
External Response	-.32 (ns)	-.14 (ns)		.15 (ns)	.03 (ns)		.65 (ns)	.20 (ns)		.03 (ns)	.00 (ns)				
All Companies															
Loyalty	.70	.55		-.12 (<i>p</i> < .1)	.01 (ns)		-.10 (ns)	-.15 (ns)		.45	.48				
Switch	-.67	-.47		.35 (<i>p</i> < .01)	.16 (<i>p</i> < .05)		.15 (ns)	.05 (ns)		.21	.20				
Pay More	.43	.37		-.10 (ns)	-.07 (ns)		-.25 (ns)	-.34 (<i>p</i> < .05)		.16	.18				
External Response	-.28	-.21		.06 (ns)	.06 (ns)		.22 (ns)	.12 (ns)		.11	.10				

^aThe B1 values are significant at *p* < .01 unless otherwise stated

^bThe adjusted R-squared values are for the regression model specified in Equation 1, the values are significant at *p* < .01 unless otherwise stated.

TABLE 4
Mean Scores for Service Quality and Behavioral Intentions

Company	Service Quality ^a		Behavioral Intentions ^b			
	WP	OQ	Loyalty	Switch	Pay More	External Response
Computer Manufacturer	7.3	6.8	5.3	3.8	3.9	3.6
Retail Chain	6.5	6.2	4.9	3.9	3.2	4.3
Automobile Insurer	7.8	7.3	5.6	3.1	3.5	4.2
Life Insurer	7.6	7.0	5.0	3.1	3.4	3.8

^aMean scores on a 9-point scale.

^bMean scores on a 7-point scale.

switch). However, the combined-sample results for the pay more dimension reveal considerable flattening of the quality-intentions relationship above the zone of tolerance. In fact, the slope for the OQ-pay more relationship changes from .37 below the desired-service level to just .03 (.37 – .34) above. Thus, companies wishing to improve service beyond the desired-service level should do so cautiously and cost-effectively, because recouping the added expense by charging price premiums may not be a viable option. The quality-intentions relationship for external response—which, as indicated by its B_1 coefficients, is flatter within the zone than for the other three dimensions—remains unchanged below and above the zone as well. Thus, relative to the other dimensions, external response appears much less affected by changes in quality over a wide range.

The pattern of adjusted R-squared values in the last two columns of Table 3 offer two noteworthy insights based on the overall ability of service-quality-related variables (d_1 , d_2 , and X) to explain the variation in scores on each behavioral-intentions dimension. First, the relationship of quality (both WP and OQ) with loyalty and switch is consistently stronger in the two pure-service companies (automobile and life insurers) than in the two product companies (computer manufacturer and retail chain); however, the reverse is true for the quality-pay more relationship: The relationship is consistently stronger in the two product companies than in the two pure-service companies (for additional analyses, see the Appendix). Second, the quality-pay more relationship is consistently weaker than the quality-loyalty relationship in all four companies and the combined sample. We examine the implications of these insights subsequently.

In Table 4, we summarize the mean scores for service quality and behavioral intentions by company. An across-company comparison of the mean-score patterns provides additional support for inferring that service quality is associated positively with favorable behavioral intentions and negatively with unfavorable behavioral intentions. With few exceptions, the better a company's service-quality scores, the higher are its loyalty and pay more means and the lower are its switch and external response means. To illustrate, the retail chain's WP and OQ scores are considerably lower than the corresponding scores for the automobile insurer. Matching behavioral-intentions data show that the retail chain's customers are less loyal and less willing to pay more—and

more prone to switch and complain externally—than the automobile insurer's customers.

Impact of Service-Problem Experience and Resolution on Behavioral Intentions

H_2 predicts that customers experiencing no service problems have the best behavioral-intentions scores (highest for favorable intentions and lowest for unfavorable intentions— H_{2a}), customers experiencing problems that were resolved would have intermediate scores (H_{2b}), and customers with unresolved service problems would have the worst scores (H_{2c}). To test this hypothesis, the combined sample was classified into three groups of respondents: those experiencing no recent service problems; those experiencing problems that were resolved; and those experiencing problems that were not resolved. Analysis of variance was conducted to determine whether scores on each behavioral-intentions dimension differed across the groups. The F-values for all four ANOVAs were significant at $p < .001$. Eight prespecified contrasts (first-group mean versus second-group mean and second-group mean versus third-group mean for each of the four behavioral-intentions dimensions) were also evaluated. In Table 5, we present the group means and the significance levels for the planned contrasts.

The alpha level for testing the significance of individual contrasts was reduced by applying the Bonferroni correction to ensure that the overall probability of Type I error across all eight contrasts did not exceed .05 (for details, see footnote b in Table 5). The evidence in Table 5 fully supports the second hypothesis for the loyalty, switch, and external response dimensions, and partially supports it for the pay more dimension. The findings clearly show that customers experiencing no service problems have the strongest levels of loyalty intentions and the weakest switch and external response intentions. However, their pay more intentions are not significantly higher than those of customers experiencing service problems that were resolved satisfactorily. Among customers experiencing recent service problems, those receiving satisfactory resolution have significantly higher loyalty and pay more intentions, and significantly lower switch and external response intentions, than those with unresolved problems. Thus, effective service recovery significantly improves all facets of behavioral intentions. However, with the possible exception of the pay more dimension, the improvements do not restore intentions to the

levels expressed by customers not experiencing service problems. These results are consistent with those from a study in which Bolton and Drew (1992) examine the impact of problem experience and resolution on telephone customers' evaluation of billing service: Customers rated the service substantially lower if they had experienced a billing problem, and the effect of satisfactorily resolving the problem did not completely offset its negative impact.

Discussion and Implications

We developed a conceptual model of the behavioral and financial consequences of service quality (Figure 1). A portion of the model—the quality-intentions link—was empirically examined at the individual-customer level in a multicompany context. Two distinctive features of the study's empirical component were the development of a more extensive behavioral-intentions battery than has been used in previous research and the investigation of changes in the quality-intentions link at different service levels relative to customers' expectations. The study's findings have important implications for researchers and managers.

Directions for Further Research

The distinctive aspects of the empirical study contribute several new insights whose implications we subsequently explore. However, our findings also reveal certain weaknesses with methodological implications. First, the behavioral-intentions battery developed here, though more comprehensive than intentions scales used in previous studies, needs further development. In particular, more items are needed to strengthen the reliability of three of its components, namely, switch, pay more, and external response. With additional items, the scales should be reevaluated for their psychometric properties. Consideration should also be given to augmenting and including in the battery internal response—the component that was eliminated because it had only one item subject to equivocal interpretation. As we pre-

viously mentioned, customers favorably disposed toward a company may complain to give it a second chance, while customers unfavorably disposed may also complain merely to vent their frustrations. Therefore, in expanding this component, it would be useful (from a diagnostic standpoint) to add items that capture *why* customers are likely or unlikely to complain. For example, respondents could be asked to rate the likelihood of the following (on the same 7-point scale used in the behavioral-intentions battery):

- Complain to XYZ's employees about a service problem because I am confident they will resolve the problem.
- Complain to XYZ's employees about a service problem to help relieve my frustration (reverse scored).

Second, additional research is needed to examine further our tentative insights pertaining to intercompany differences in the quality-intentions relationship and the changes in its slope below and above the zone of tolerance relative to within it. Although the total sample size was large for each company, the subsamples of respondents below and above the zone were relatively small, and this possibly contributed to the lack of significance of some of the slope-change coefficients. Obtaining larger samples of respondents below and above the zone in further studies would facilitate a more robust examination of changes in the quality-intentions relationship. One option for doing so is to select samples from companies that are well known for their excellent (or poor) service. Another option is to devise a suitable quota-sampling procedure to ensure large enough subsamples below, within, and above the zone. Multicompany research using such sampling procedures is needed for more definitive conclusions about the intriguing differences uncovered in this study, which concern changes in the quality-intentions link within and across dimensions and companies.

In addition to addressing the previous issues, further research should also focus on aspects of the conceptual model not examined here. For example, the association between behavioral intentions and remaining with or defecting from

TABLE 5
Mean Behavioral-Intentions Scores for Respondents Classified According to Service Problem Experience

Behavioral-Intentions Dimension	Mean Scores for Customers Experiencing ^a			Significance Levels for Planned Contrasts ^b	
	No Service Problems (Group 1; n = 2153)	Service Problems That Were Resolved (Group 2; n = 455)	Service Problems That Were Not Resolved (Group 3; n = 346)	Group 1 Mean versus Group 2 Mean	Group 2 Mean versus Group 3 Mean
Loyalty	5.47	5.01	4.11	.000	.000
Switch	3.35	4.00	4.49	.000	.000
Pay More	3.76	3.63	3.11	.036	.000
External Response	3.70	3.95	4.43	.000	.000

^aThe behavioral-intentions scores are on a 7-point likelihood scale.

^bThe reported significance levels are for one-tailed tests, because H_2 implies directional comparisons of group means. Because multiple contrasts were evaluated to test this hypothesis, the Bonferroni correction was applied to the customary alpha level of .05 to control the Type I error rate. Specifically, the alpha level was lowered by a factor of eight (the total number of planned contrasts) to yield a critical alpha level of .006 for testing the significance of each contrast (Myers 1979, pp. 298–300). At this reduced alpha level, seven of the eight planned contrasts are significant; the sole exception is the Group 1 versus Group 2 contrast for the pay more dimension.

the company merits study. Rust and Zahorik (1993) suggest ways to investigate this link, including panel data, longitudinal analysis with customers, and cross-sectional surveys asking customers about previous and current providers. Additional cross-sectional research might ask customers to indicate not only their behavioral intentions but also their actual behaviors. For example, customers could be asked whether they have said positive things about the company (actual behaviors) instead of how likely they would be to say positive things (behavioral intentions). Such research also needs to be supplemented with longitudinal research to verify the causal direction of the quality-intentions link. Data from studies tracking service quality and behavioral intentions over time can be analyzed to determine the impact of service quality in a given period on behavioral intentions in subsequent periods.

If the longitudinal data set also contains information for individual customers on variables such as purchase frequency and volume and new-customer referrals, the impact of service quality on actual behavior can be traced. Companies that have information systems linking customer data and purchase data could also examine increases or decreases in spending that result from different levels of service quality. This type of research would provide direct evidence of the financial impact of service quality at the individual level.

An intriguing finding worthy of further research is the pattern of across-company differences implied by the differences in the adjusted R-squared values for the various quality-intentions regression equations (Table 3). As previously highlighted, the quality-intentions link for the loyalty and switch dimensions is consistently stronger for the two pure-service companies than for the two product companies, whereas the reverse is true for pay more. Is it possible that the *role* of service within a firm's total offering (i.e., core versus supplemental component) is a plausible explanation for this pattern of differences? Because service is all that a pure-service provider, such as a life insurance company, delivers in exchange for customers' money, customers' commitment to the company might be extremely responsive to service-quality improvements; however, these customers' willingness to pay more may not be as responsive, because they may feel they have, in effect, already paid for high-quality service. Alternatively, the pay more findings may simply reflect customers' general reluctance to pay for insurance services and may not apply to pure services overall.

In contrast, because service is not the core of what a product company sells to customers, their commitment to the company may be less sensitive to changes in service quality (especially if product quality is mediocre); however, customers may be somewhat more willing to pay more for better service, because they may consider service to be an extra feature. To what extent and under what circumstances are these speculations likely to be true? Furthermore, what is the nature and extent of the impact of factors other than the service component (e.g., price, product characteristics) on customers' behavioral intentions? Additional conceptual and empirical research addressing these issues can improve our understanding of the behavioral consequences of service quality.

Managerial Implications

The overall findings offer strong empirical support for the intuitive notion that improving service quality can increase favorable behavioral intentions and decrease unfavorable intentions. The findings demonstrate the importance of strategies that can steer behavioral intentions in the right directions, including striving to meet customers' desired-service levels (rather than merely performing at their adequate-service levels), emphasizing the prevention of service problems, and effectively resolving problems that do occur. However, multiple findings suggest that companies wanting to improve service, especially beyond the desired-service level, should do so in a cost-effective manner: the quality-pay more relationship in the combined sample, while upwardly sloping below the desired service level, becomes virtually flat above that level (Table 3); the adjusted R-squared values for the quality-pay more regressions are weaker than for the quality-loyalty regressions across all companies and for both measures of service quality (Table 3); and, in each of the four companies, the mean score for pay more intentions is considerably lower than for loyalty intentions (Table 4).

In addition to these general implications, the conceptual model and the empirical findings have specific implications for firms' research and resource-allocation decisions pertaining to improving service quality. A salient issue on the service quality research agenda of many companies is understanding the impact of service quality on profits. One of the reasons it has been difficult for individual firms to calibrate this impact is that the relationship is complex and consists of multiple intervening relationships. As was suggested in our model of individual customer response, a chain of relationships is integral to the overall impact.

Companies first must examine the impact of their service-quality provision on customers' responses, including intentions signaling behaviors that are potentially favorable or unfavorable to the company. For most companies, a battery of behavioral-intentions questions could be incorporated easily into the measurement systems currently used to capture service-quality assessments. Doing so provides a continuous source of information relating to such questions as,

- What levels of service quality must we deliver to retain customers?
- What service initiatives should we undertake to encourage customers to recommend the company, spend more with the company, or pay a price premium?
- What attributes should we focus on to reduce the likelihood of customers spreading negative word-of-mouth communications when service problems occur?
- To retain customers, should we spend our money on proactive service improvements or on handling complaints?

In essence, behavioral intentions become dependent variables with potentially higher validity (because they are more closely related to actual behaviors) and richer diagnostic value than the "overall service quality" or "customer satisfaction" variables currently being used in most measurement programs.

Companies also can use surveys eliciting behavioral intentions as an early warning system to identify customers in danger of defection and to take timely corrective action. It has long been speculated that many service customers exhibit "spurious loyalty"—they remain with companies they are dissatisfied with because they see no alternatives. Local telephone customers, with no choice in service providers, are often cited as customers exhibiting spurious loyalty. Because of the deregulation of that industry—and the imminent competition among cable companies, long-distance companies, and other regional Bell companies—firms supplying local telephone service might be able to strengthen customer retention by identifying customers most in danger of defection.

Another measurement implication for companies to understand better and leverage the relationships in the conceptual model (Figure 1) is to query customers about whether they have manifested, rather than merely would manifest, favorable or unfavorable behaviors. Companies should also consider connecting their marketing database to their accounting information systems to explore the links between customers' assessments of service quality and their purchase behavior. L. L. Bean has accounting systems that track vital purchasing patterns of individual customers: what they purchase, when they buy, and how much they spend over time. Companies with such systems could benefit from integrating their customer-research database with actual purchase data to enhance their knowledge of how and to what extent behavioral intentions act as precursors of purchasing behavior.

Yet another facet of the conceptual model that merits thorough analysis at the individual company level involves actual increases or decreases in revenue from retention or defection of customers. Reichheld and Sasser (1990) call for accounting systems that capture the expected cash flows from and life-time value of a loyal customer. This call could be expanded to include an examination of the revenue implications of individual behavioral-intentions components as well. For example, what is the potential revenue differential between customers indicating a low versus a high propensity to switch? Is there a difference in the revenue streams from customers expressing a strong versus a weak inclination to pay a price premium for a company's service? Examining such questions will facilitate a more detailed calibration and a clearer understanding of the financial consequences of service quality.

Appendix

To formally test the significance of these and other inter-company differences implied in our discussion, an extended version of regression Equation 1 was estimated for the combined sample:

$$(A1) Y = B_0 + B_{g1}g_1 + B_{g2}g_2 + B_{g3}g_3 + B_{d1}d_1 + B_{d2}d_2 + B_1X + B_2d_1X + B_3d_2X + g_1[B_{g1d1}d_1 + B_{g1d2}d_2 + B_4X + B_5d_1X + B_6d_2X] + g_2[B_{g2d1}d_1 + B_{g2d2}d_2 + B_7X + B_8d_1X + B_9d_2X] + g_3[B_{g3d1}d_1 + B_{g3d2}d_2 + B_{10}X + B_{11}d_1X + B_{12}d_2X] + \epsilon,$$

where

g_1 = dummy variable with a value of 1 when the company is the retail chain, 0 otherwise;

g_2 = dummy variable with a value of 1 when the company is the automobile insurer, 0 otherwise;

g_3 = dummy variable with a value of 1 when the company is the life insurer, 0 otherwise; and

Y , X , d_1 , d_2 , B 's, and ϵ = same as those defined for Equation 1.

When g_1 , g_2 , and g_3 are 0, Equation A1 pertains to the computer manufacturer, with B_1 representing the slope of the quality-intentions relationship within the tolerance zone and B_2 and B_3 representing changes in that slope below and above the zone, respectively. Using the computer manufacturer as the reference company, B_4 through B_6 , B_7 through B_9 , and B_{10} through B_{12} are the corresponding slope-change coefficients for the retail chain, automobile insurer, and life insurer, respectively. As in the case of Equation 1, Equation A1 was estimated for each of the four behavioral-intentions dimensions. The results show consistent statistical significance (at $p < .05$) only for B_1 . With a few exceptions (that revealed no meaningful pattern), the slope-change coefficients B_2 through B_{12} are not significant. An inadequate number of sample units with nonzero values for the variables corresponding to these eleven coefficients (and the consequent low variance for these variables) is a highly plausible explanation for this lack of significance: The percentage of respondents (relative to the total sample) with nonzero values was less than 5% for five of the variables, less than 10% for another five variables, and less than 20% for the remaining one variable. A set of tables summarizing these regression results can be obtained from the third author.

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Impact of Salesperson Attraction on Sales Managers' Attributions and Feedback

The authors develop a model of how a salesperson's task and social attraction affect a sales manager's causal attributions explaining the salesperson's poor performance and the manager's corrective feedback based on these attributions. The authors' experimental results, based on a sample of 218 sales managers, suggest that (1) causal attributions, cognitive effort, and decision confidence are directly affected by task and social attraction; (2) the effects of task and social attraction on coercive feedback are mediated by internal attributions; and (3) external attributions play a partial, but negative, mediating role for nonpunitive feedback. The authors also find evidence that interpersonal affect directly influences manager feedback. Implications for research and practice are developed that recognize that appraisal processes are influenced by affect and attributional considerations, not simply bias and inaccuracy in rating performance itself.

It may have been a company related change that caused the problem. It also could have been caused by a change in the decision maker who has had a previous bad experience with our company, or simply prefers another vendor.

He did not work very hard ... [or] very smart. He did not earn the right to ask for the orders. He was lazy and did not try to use the team organization to his benefit. In addition, he does not work well with people. He does not have the respect of any other rep's in the office and most feel that he thinks he is above us.

Do sales managers objectively evaluate sales personnel? Or, do their affective relationships with sales personnel influence these evaluations? Consider the previous epigraphs (extracted from our study). In the first, the sales manager attributes the cause of poor performance to external causes. The sales manager and salesperson happen to have a positive relationship. In the latter, the sales manager attributes blame to internal causes—a lack of ability and effort. This sales manager and salesperson have a negative relationship. Ironically, these divergent judgments are based on identical performance data. Of course, sales managers always are exhorted to be objective in their evaluations (Gentry, Mowen, and Tasaki 1991).

Although objectivity may be more of a goal than an achievable reality, the importance of sales manager evaluations in influencing sales performance is clearly recognized. Supervisory feedback powerfully shapes salesperson performance (Jaworski and Kohli 1991). In fact, no single factor

may influence work behavior more than performance evaluations and feedback (Anderson and Chambers 1985). Sales managers also rely on performance appraisals to guide their promotion, pay, training, and termination decisions (Podsakoff and MacKenzie 1994). Thus, the bases and processes driving sales manager evaluations, causal attributions, and feedback are “of obvious interest to salespeople” (Podsakoff and MacKenzie 1994, p. 361), as well as to the sales organization itself.

Salesperson and organizational interest in sales manager evaluations concern their perceived appropriateness, fairness, and equity. Salespeople may question, distort, or reject sales manager appraisals and feedback according to their own personal biases and self-evaluations (Jaworski and Kohli 1991). Thus, the basis of a sales manager's appraisal and the processes underlying it can determine the acceptance of managerial feedback. Moreover, Podsakoff and MacKenzie (1994) indicate that perceived injustices can critically undermine salesperson motivation, job satisfaction, and organizational commitment. They argue that sales personnel should be well informed of evaluation-feedback mechanisms, especially if subjective factors such as organizational citizenship and interpersonal affect are involved. They further state that perceived injustices reduce organizational performance if scarce resources and time must subsequently be devoted to conflict resolution and organizational maintenance tasks (rather than selling and servicing customers). Hence, it is apparent that research concerning the bases and processes involved in salesperson evaluation, causal attributions, and feedback is potentially worthwhile.

We found the lack of empirical research on performance appraisal processes in either sales or leadership contexts to be striking. Hence, we develop and empirically test a model examining the impact of affective qualities of the sales manager-salesperson relationship on (1) sales managers' causal

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attributions for poor performance and (2) their managerial feedback based on these attributions. We examine two affective dimensions: *task attraction*, that is, the desirability of the salesperson to the sales manager as a work partner, and *social attraction*, that is, the desirability of the salesperson to the sales manager as a friend and social partner. Our premise is that task and social attraction exert a strong influence over sales manager attributions and corrective feedback. We quote a Fortune 500 sales manager from our study:

I hired three new salespeople. Each had the same ups and downs during the first six months, but one of the three I personally disliked. Despite the fact that he performed about the same as the other two, I evaluated him more negatively than the others. Within the year he quit. The next thing I heard he became [a competitor's] number one salesperson. I lost a good salesperson because of personal feelings.

The role of positive or negative affect in the sales manager–salesperson relationship in influencing causal attributions, attributional processes, and managerial feedback is important for many reasons. First, objectivity in sales performance evaluation is promoted as the standard, yet it is recognized that “the sales manager may attribute negative outcomes to the situation when evaluating a familiar or well-liked salesperson” (Gentry, Mowen, and Tasaki 1991, p. 35). This is the type of bias that can undermine job attitudes, sales performances, and salesperson career development.

Prior research suggests a role for affect when judging others in general (Crocker, Hannah, and Weber 1983; Regan, Strauss, and Fazio 1974) and in job evaluations (Kingstrom and Mainstone 1985; Tsui and Barry 1986); yet, research in sales contexts is limited. Dubinsky, Skinner, and Whittler (1989) report that a favorable a priori work history directly affects the relative number of internal (fewer) and external (greater) attributions for poor performance. Although explained as a base-rate effect, interpersonal affect may be responsible as well. The organizational citizenship model, for example, suggests that sales managers affectively value salespeople who enhance the sales manager's own job performance (Podsakoff and MacKenzie 1994).

Second, despite the existence of conceptual models of the role of affect in work domains or the professions, empirical research is lacking. For example, leadership models stress the potential moderating role of interpersonal familiarity and liking in determining sales managers' causal attributions of subordinates (Feldman 1981; Green et al. 1985; Green and Mitchell 1979). However, we found no empirical tests of these moderating effects. More important, despite calls for research on the cognitive processes underlying job evaluation (Feldman 1981; Ilgen and Feldman 1983), little has been conducted. In addition, performance appraisal models tend to be “cold” or ignore the role of affect in influencing cognitive processes, attributions, and feedback. A recent laboratory study, based on information processing theory, indicates that liking is an integral factor in teaching evaluations (Cardy and Dobbins 1986). The authors echo the call for more process-oriented research on the role of affect in real-world contexts.

Third, sales researchers suggest the need to examine the role of affective and cognitive processes in performance evaluations. For example, Jaworski and Kohli (1991) stress that the systematic attention to the cognitive processes that drive feedback, including salesperson acceptance of sales manager's evaluations, is essential. Similarly, Podsakoff and MacKenzie (1994) posit that several alternate processes may underlie their observation that organizational citizenship affects sales managers' performance appraisals: (1) the operation of norms of reciprocity, which cause the manager to reward salespeople who perform organizational citizenship behaviors (OCBs); (2) a cognitive bias exists, because OCBs are likely to be distinctive, internally attributed, and remembered during evaluation tasks; and (3) a schema-driven affect view exists, in which salespeople who perform OCBs receive the benefit of positive affect (being prejudged a “good salesperson”) in the appraisal process. This suggested role for affect is central to our study.

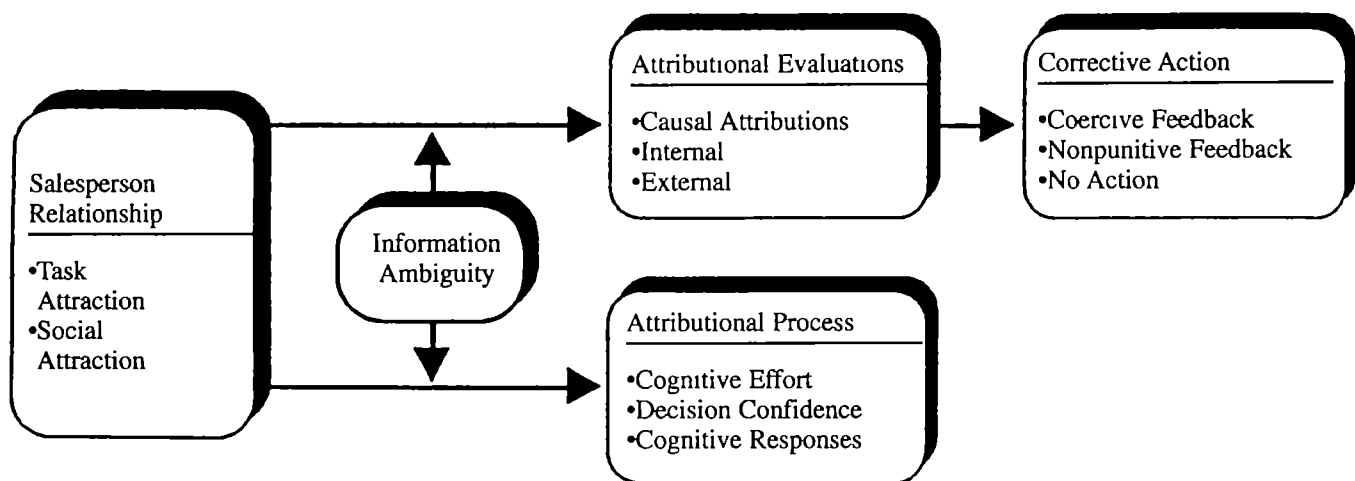
To summarize, sales managers' evaluations play a central role in affecting salesperson and sales force performance. Sales personnel and sales managers have an obvious interest in understanding the processes driving sales evaluations and feedback. Recent models in both sales and leadership stress the need for empirical research examining the role of interpersonal affect and causal attributions in appraisal contexts. Hence, we (1) develop our model of how task and social attraction affect the attributional process, attributional outcomes, and feedback, (2) present the hypotheses, design, analysis, and results of an empirical study on a sample of professional sales managers, and (3) discuss the implications of our results for further research and practice in sales contexts.

Theory and Hypotheses

The relevance of attribution theory (Heider 1958; Kelley 1967) to sales evaluations is well accepted (Dubinsky, Skinner, and Whittler 1989; McKay et al. 1991; Mowen et al. 1986). The general view (Gentry, Mowen, and Tasaki 1991) is that deviations from a priori expectations concerning salesperson performance cause sales managers to seek causal explanations, especially when a person fails (Wong and Weiner 1981). Failure drives managers to ask “why”; success leads them to ask “how” or “what do you think” (Gioia and Sims 1986). Accordingly, we develop our model in terms of the poor-performance context.

We employ Weiner's (1972, 1980) attributional model for achievement contexts. We examine the influence of task and social attraction—affective elements of the sales manager–salesperson relationship—on causal attributions, the attributional process, and managerial feedback. We also explore the role of information ambiguity regarding performance data that is available to the manager in this attributional process. In Figure 1, we illustrate the influence of task and social attraction on sales managers' attributions under varying conditions of information ambiguity. This model indicates direct effects of task and social attraction on sales managers' causal attributions; in turn, we expect these causal attributions to affect managerial feedback. Thus, the effect of task and social attraction on corrective feedback is

FIGURE 1
Attributional Model for the Poor Sales-Performance Context



expected to be mediated by sales managers' causal attributions (see Figure 1). The conceptual logic underlying our model and hypotheses follow.

Internal versus external causal attributions. Will task and social attraction affect sales managers' causal attributions? Very likely. As Mitchell, Green, and Wood (1981, p. 206, emphasis added) note,

Any factor which makes a leader (sales manager) *psychologically closer* to the member (salesperson) should increase the tendency for the leader to make self-like attributions regarding the member ... anything that increases the *psychological distance* ... will increase the likelihood that the leader's attributions will be discrepant from the member's causal explanations of his or her own behavior.

Mitchell, Green, and Wood's comments describe a variant of the fundamental attribution bias, or, the tendency of people to credit themselves for success and blame the environment for failure. Here, poor performance by an attractive salesperson is attributed to an external cause (as if the sales manager were judging his or her own performance); however, a less attractive salesperson is held accountable for failure (as when the sales manager evaluates someone else's failure). In fact, performance-evaluation models posit a significant role for interpersonal attraction and affect-laden thought (Liden and Graen 1980; Mitchell, Green, and Wood 1981; Tanner and Castleberry 1990), especially when manager-subordinate contact is infrequent.

Salesperson-sales manager relationships are likely to involve both task and social attraction (McCroskey and McCain 1974). Task attraction, the sales manager's judgment of the salesperson's desirability as a work partner, is indicated by interpersonal confidence, an efficient working relationship, and the quality of on-the-job communications. Task attraction has been found to influence directly manager attributions, global evaluations, and promotions (Crouch and Yetton 1988; Fedor and Rowland 1989; Kingstrom and Mainstone 1985).

Social attraction, the salesperson's desirability as a friend and social partner, is indicated by liking, empathy, and personal friendship. The effects of social attraction on managerial evaluations are equivocal. Positive social attraction influences managers to provide positive evaluations and promotions (Crouch and Yetton 1988; Kingstrom and Mainstone 1985). However, in a close-supervision context, no such effect was found (Fedor and Rowland 1989). Because of the relative autonomy of sales personnel and the emphasis managers place on personal appearance and attitude (Futrell, Parasuraman, and Sager 1983; Jackson, Keith, and Schlacter 1983), we expect a relatively strong effect for social attraction in sales contexts.

What effect do task and social attraction have on sales managers' causal attributions? We expect positive task and social attraction to yield strong agreement that external causes are responsible for poor performance; however, negative task and social attraction should generate stronger agreement that internal causes (i.e., salesperson ability or motivation) are responsible. The psychological-distance model provides the most direct rationale. Salespersons who benefit from high task and social attraction are "psychologically close"; hence, sales managers are more likely to attribute these salespersons' poor performance to external causes. Salespersons who have lower task and social attraction are "psychologically distant"; hence, they are likely to be held personally accountable. The fundamental attribution bias model yields similar predictions (Jones and Davis 1965), especially because sales managers are relatively insensitive to external data when explaining poor performance (Dubinsky, Skinner, and Whittler 1989; Mowen et al. 1985). In summary,

H₁: When evaluating the poor performance of a positive-, relative to a negative-, task-and-social-attraction salesperson, sales managers will be more inclined to make external than internal causal attributions as the cause of the salesperson's poor performance.

Thoughtful versus automatic attributional processing.

Do task and social attraction affect the amount of effort and thought devoted to the attributional process? Again, very likely. According to the cognitive-miser notion (Bettman, Johnson, and Payne 1990), people favor simpler attributional processes. Essentially, when incoming data are consistent with a priori expectations, relatively automatic or heuristic processes are employed; when data are inconsistent with expectations, greater conscious attention and thought are indicated. As Feldman (1981, p. 129) notes, "It is only when behavior departs from expectations or when the task is somehow changed, that conscious attention and recognition processes are engaged" (see also Fiske and Taylor 1991). Interpersonal affect even influences attributions under conscious processing (Feldman 1981).

Our expectation is that poor performance by an attractive salesperson triggers conscious processing; however, less effort and thought is required when the salesperson is less attractive. The most direct explanation is heuristic processing. For task attraction, a representative heuristic is "People who have done well previously will do well again"; for social attraction, the heuristic is "Liked people are expected to do well." Poor performance by a salesperson who benefits from positive task or social attraction is inconsistent with these heuristics; hence, conscious processing is indicated. On the other hand, poor performance by a less attractive salesperson is consistent with the obverse of these heuristics; therefore, less effort and thought are necessary. Two alternate process models, fundamental attribution bias and psychological distance (Mitchell, Green, and Wood 1981), yield similar predictions of effortful processing when sales managers observe unexpectedly poor performance for high-attraction sales personnel.

For our hypothesis, we use thoughtfulness and perceived effort as indicators of the relative degrees of conscious processing. To indicate thoughtfulness, we employ cognitive responses (CRs). Despite their recognized role in consumer research (Hastak and Olson 1989; Wright 1980) and the suggestions that CRs are useful for both attributional (Weiner 1983) and organizational research (Larson 1984), we found no empirical applications. Consistent with the logic supporting H_1 , we expect sales managers to provide more external and fewer internal CRs when the salesperson benefits from positive task and social attraction. We also expect perceived effort to be greater when the sales manager judges a poor-performing high-attraction salesperson.

We examine decision confidence as a corollary indicator of cognitive processing and expect decision confidence to be relatively high when the salesperson is low in task or social attraction. Higher confidence occurs because this scenario is consistent with expectations. However, poor performance by a high-attraction salesperson is unexpected. In such contexts, people "remember" schema-consistent information useful to resolving the attributional dilemma (Cohen 1981). Alternatively, external search for corroborating evidence might occur. Our study, however, precludes external search. Therefore, we expect decision confidence to be lower, because the sales manager's normal pattern of at-

tributing cause externally is compromised. In summary, our hypothesis concerning attributional processing is,

- H_2 : When evaluating poor performance for a positive-, relative to a negative-, task-and-social-attraction salesperson, sales managers will report (a) more perceived effort in processing, (b) more externally and fewer internally focused thoughts (CRs), and (c) lower decision confidence.

Interaction effects of task and social attraction. What effects are expected when task and social attraction are congruent or incongruent? When they are congruent, we expect their effects to be synergistically magnified. When they are incongruent, we expect all causal attributions and attributional process indicators to be moderate. We also expect, however, that sales managers rely to a greater extent on task, than on social, schemas because of their greater relevance to the sales manager's own success (Podsakoff and MacKenzie 1994). Hence, we specify the following exploratory interaction hypothesis:

- H_3 : A significant task $\times$ social attraction interaction is expected such that
- (a) the positive task and social conditions, relative to the negative task and social conditions, are expected to yield: (1) stronger agreement that external attributions are the cause, (2) weaker agreement that internal attributions are the cause, (3) more externally focused and fewer internally focused CRs, and (4) lower decision confidence.
 - (b) the positive task and negative social conditions, relative to the negative task and positive social conditions, are expected to yield: (1) stronger agreement that external attributions are the cause, (2) weaker agreement that internal attributions are the cause, (3) greater perceived effort, (4) more externally focused and fewer internally focused CRs, and (5) lower decision confidence.

Mediating effects of causal attributions on feedback. Do task and social attraction affect managerial feedback? If so, how are these effects realized? We posit that the effects of task and social attraction on feedback are indirect, that is, mediated by causal attributions. In other words, corrective feedback depends on whether the salesperson or the situation is blamed. In leadership models, a mediational role for causal attributions in the feedback process has been proposed, but not empirically tested (Green and Mitchell 1979; Ilgen and Feldman 1983; Mitchell, Green, and Wood 1981). Specifically, the effect of performance data on causal attributions is moderated by leader-member relations (or affect); causal attributions, in turn, influence leader feedback directly. Hence, causal attributions serve to mediate the effect of leader-member affect on managerial feedback.

In sales contexts, attributional models consistently predict that sales managers use ability, effort, task-difficulty, and luck cues to attribute poor performance to either the salesperson or the situation (Gentry, Mowen, and Tasaki 1991). These causal attributions, in turn, affect corrective actions. For example, Dubinsky, Skinner, and Whittler (1989) find that sales managers direct their actions to the salesperson when attributions are internal. Similarly, in a student experiment, McKay and colleagues (1991) report

that attributions to low effort increase the relative likelihood that coercive actions would be undertaken and attributions to low ability increase the relative likelihood that nonpunitive actions and transfer out of the district would occur. Although these results indicate that attributions affect feedback, the specific conclusion that low ability generates nonpunitive feedback is problematic. According to Weiner (1983), ability may be perceived as either stable and uncontrollable (e.g., intelligence) or unstable and controllable (e.g., skill). In the former, nonpunitive actions seem reasonable. In the latter, coercive action may be indicated. In fact, McKay and colleagues (1991) themselves note that low ability is more difficult to correct than low effort and, therefore, coercive action may be required.

In industrial-sales contexts, we are concerned with effort and ability as factors that are under salesperson control. We expect, therefore, that internal attributions to salesperson effort (e.g., motivation) and ability (e.g., skill) result in coercive feedback; whereas external attributions result in either nonpunitive action or no action. Hence,

H₄: Internal attributions to effort and ability will be positively related to coercive feedback.

H₅: External attributions will be positively related to nonpunitive feedback or no action.

The role of interpersonal affect in these models is equivocal. Gentry, Mowen, and Tasaki (1991) posit that salesperson familiarity indirectly affects corrective feedback through attributions. Dubinsky, Skinner, and Whittler (1989) propose a moderating role for interpersonal affect on the performance-attribution linkage, with subsequent effects on feedback. However, Tanner and Castleberry (1990) argue that interpersonal attraction affects corrective actions directly: psychologically close subordinates receive nonpunitive feedback; psychologically distant subordinates receive punitive feedback (Graen and Cashman 1975; Liden and Graen 1980). The logic is that "supervisors may have more to lose, in terms of the affective quality of their interpersonal relations with subordinates, when giving negative performance feedback to a liked subordinate" (Larson 1984, p. 52). Similarly, the norm-of-reciprocity explanation implies a direct effect of salesperson attraction; however, the schema-driven affect model of OCBs seems more consistent with the mediation model (Podsakoff and MacKenzie 1994).

We are interested theoretically in the role of causal attributions in mediating the effect of a salesperson's task and social attraction on sales manager feedback. Demonstrating this mediating role for causal attributions requires that (1) task and social attractiveness affect causal attributions directly (H₁), (2) causal attributions affect corrective feedback directly (H₄, H₅), and (3) any direct effect of task and social attraction on corrective feedback is eliminated or attenuated when causal attributions are added as explanatory variables in the attraction-feedback model. Thus, our mediation hypothesis is,

H₆: The inclusion of causal attributions as explanatory variables in the attraction-feedback model significantly attenuates the direct effects of task and social attraction on corrective feedback; moreover, (a) internal motivation and ability attributions significantly and positively mediate the

effect of task and social attraction on coercive feedback and (b) external attributions significantly and positively mediate the effect of task and social attraction on nonpunitive feedback.

We do not specify hypotheses for the direct effects of task and social attraction on corrective feedback, because our model is formulated in full-mediation terms. However, direct effects are apparently consistent with vertical-dyad (Tanner and Castleberry 1990) and reciprocity views (Podsakoff and MacKenzie 1994). Thus, the empirical presence of direct effects of task and social attraction indicates that attention should be paid to these and other alternate views in further research.

Moderating effects of information ambiguity. Does information ambiguity moderate the effects of task and social attraction? Interpersonal affect is more likely to influence attributions when performance data is ambiguous, because then the evaluator's a priori stereotypes are operative (Lamber and Wedell 1991; Tversky and Kahneman 1974). We expect similar effects in sales contexts. Sales performance data are often uninformative or incomplete (Ferber 1983). Hence, sales managers may be likely to rely on salesperson affect in these circumstances.

Information ambiguity is the degree to which internal (salesperson) or external (situation) causes are indicated by the performance data. Information ambiguity is defined in terms of: *consensus*, the degree to which other salespeople perform similarly in similar situations; *distinctiveness*, the degree to which a salesperson's performance on this task is dissimilar from his or her performance in other tasks; and *consistency*, the degree to which the salesperson has performed similarly in the past. Our information-ambiguity conditions vary these information types. We expect that the effect of task or social attraction on causal attributions and external or internal CRs are moderated by information ambiguity (i.e., the $T_j \times I_k$ and $S_i \times I_k$ interactions are significant). Specifically, the effects of task and social attraction on causal attributions are significant and positive when the poor-performance scenario is ambiguous; however, these effects are negligible or smaller when the poor-performance scenario unambiguously indicates that the salesperson or the territory is responsible. Thus, our exploratory hypothesis is,

H₇: The effects of task and social attraction on (a) causal attributions and (b) external and internal CRs are expected to be greater under ambiguous, than under unambiguous, conditions.

The three-way interaction ($T_j \times I_k \times S_i$) is not theoretically of interest. We report these results only as an exploratory analysis.

Method

The field experiment employed a $2 \times 2 \times 3$ full-factorial, between-groups design, with task attraction, social attraction, and information ambiguity manipulated. Multi-item measures of managerial attributions, cognitive effort, decision confidence, and corrective action were developed as dependent variables (all 7-point scales were anchored by 1 = strongly disagree and 7 = strongly agree). Cognitive re-

sponses were collected and coded for use as dependent measures. Manipulation checks were also taken. Practicing sales managers were randomly assigned to a single experimental cell and mailed a packet. The subsequent discussion details the experimental design and procedures, including operationalizations of the independent variables, sampling frame and realized sample, dependent measure development and purification (including CR coding), and manipulation check analysis.

Experimental Design and Treatments

The experiment required the development of independent treatments for task attraction (two levels), social attraction (two levels), and information ambiguity (three levels). The task and social attraction scenarios (see Appendix A) required each sales manager to select a familiar salesperson who best fit the relevant task $\times$ social attraction treatment to which he or she had been assigned. To strengthen the manipulations and enhance realism, each sales manager was asked to read the assigned scenario and write the salesperson's first name in the blank spaces in each of four sentences describing the salesperson (Gardner and Siomkos 1985).

To manipulate information ambiguity, we developed three distinct treatments to examine the effect of task and social attraction when (1) the performance data is ambiguous concerning causality, (2) the performance data unambiguously points to task difficulty as the external cause, and (3) the performance data unambiguously points to the salesperson as an internal cause. Empirically validated ambiguity scenarios are available (Hilton and Jaspers 1987; Hilton and Slugoski 1986). Typically, eight ambiguity conditions are specified by factorially varying consensus, distinctiveness, and consistency at two levels each (H = high; L = low).

We selected three of these cells as our treatments. High ambiguity is defined by *low consensus* (e.g., all other salespeople have performed as expected and retained their major accounts), *high distinctiveness* (e.g., despite losing the major account, this salesperson produced strong results with other customers), and *low consistency* (e.g., despite losing the major account, the salesperson performed well with other major accounts in the past). This LHL combination is ambiguous because it provides necessary, but not sufficient, information to draw either internal or external attributions (Hilton and Slugoski 1986; Jaspers 1983).

The two least ambiguous scenarios (Hilton and Jaspers 1987; Teas and McElroy 1986) were also selected. First, the task-difficulty (HHH) scenario, defined by high consensus, high distinctiveness, and high consistency, indicates that the salesperson's poor performance is similar to that of other sales personnel, is not consistent with his or her performance with other customers, and is consistent with his or her major account performances in previous years. Second, the personal-responsibility (LLH) scenario, defined by low consensus, low distinctiveness, and high consistency, indicates that the salesperson's poor performance is unusual relative to others, is similar to his or her poor performance with other customers, and is consistent with his or her poor major account performance in the past.

These scenarios were varied in a hybrid verbal and spreadsheet format (see Appendix A). Prior studies report distinct effects for the written or spreadsheet formats (Mowen, Brown, and Jackson 1980/81; Mowen et al. 1985; Mowen, Fabes, and LaForge 1986). For control, our scenarios use both verbal and spreadsheet methods. To enhance realism, actual sales and quota data from the participating companies are modeled in the scenarios.

Because our treatments are novel, we pretested them for clarity and difficulty with 14 sales managers enrolled in an executive masters of business administration (MBA) class. The modified scenarios were then pretested with 40 full-time MBA students. Significant main effects were noted for the task and social attraction treatments ($p > .001$) and the personal-responsibility and ambiguous scenarios ($p > .03$); however, the task-difficulty scenario required further modification. These revised scenarios were then reviewed in telephone interviews with 12 sales managers. At this stage, only minor refinements were suggested.

Data Collection Procedures

A three-wave mailing procedure was employed (Dillman 1978). Each sales manager was sent a survey packet, including (1) a letter describing the study purpose, (2) a letter from the senior sales executive or the Sales and Marketing Executive (SME) president endorsing the study, (3) the two-part questionnaire, and (4) a postage-paid return envelope. Sales managers were promised anonymity to encourage candid responses. One week later, reminder postcards were sent. After another three weeks, color-coded replacement questionnaires were mailed. To further boost response rates, each respondent was included in a lottery. Ten of the first 50 respondents received \$50 each. To participate, managers simply attached a business card to their survey. To ensure confidentiality, business cards were separated from the surveys.

The questionnaire consisted of two parts. In Part I of the questionnaire, each manager was asked to read the attraction scenario, identify a salesperson who best fit the scenario, and then write the salesperson's first name in the scenario as the subject of four descriptive sentences. Sales managers were then asked to rate the salesperson on ten manipulation check items and specify how often they communicated with the salesperson. These steps were designed to make the role-playing exercise an active one (Gardner and Siomkos 1985; Geller 1978). Role playing is commonly used in studies such as ours (Forward, Cantor, and Kirsch 1976; Mowen et al. 1985). In Part II of the questionnaire, each manager was asked to read the poor performance scenarios and evaluate the salesperson by providing, in order, cognitive responses, causal attributions, cognitive effort and decision confidence, corrective actions, information-ambiguity checks, and sales manager demographics.

Sampling Frame and Realized Sample

The sample frame included 468 U.S. sales managers recruited from a Fortune 500 mailing equipment (ME) firm (all 289 managers), an office equipment (OE) firm (all 103 managers), and a southeast SME mailing list (79 sales man-

agers). The realized sample was 227 (a 48% response rate). Data were incomplete for 9 managers, so the net sample was 218 (46%). This sample includes 144 (49%) ME managers, 55 OE managers (53.4%), and 19 SME managers (25%). The SME participation was similar to the 25.5% reported by Singh (1993). The sample distribution across the 12 experimental cells ranged from a low of 14 (36%) to a high of 23 (59%) managers.

To assess the compatibility of the three samples, post hoc ANOVAs for several firm-level effects (ME versus OE versus SME) were conducted. No significant differences were found on internal ($F(2,196) = 1.58, p > .10$) and external ($F(2,196) = .839, p > .10$) attributions, the level of interaction with the salesperson for business reasons ($F(2,214) = 1.43, p > .10$), social reasons ($F(2,213) = .10, p > .10$), or percentage of quota obtained ($F(2,200) = .55, p > .10$). To test nonresponse error, the sample was divided into quartiles on the basis of the timing of the responses. The first and fourth (all of which were second-mail-out responses) quartiles show no significant mean differences on any of our dependent variables (Armstrong and Overton 1977).

Measure Development and Purification

Dependent measures. Task and social attraction were based on McCroskey and McCain's (1974) work; corrective feedback was based on McKay and colleagues' (1991) work. The remaining scales were developed for this study. Scale unidimensionality, reliability, and validity were assessed. First, each scale was factor analyzed to obtain a preliminary assessment of the dimensionality. Scales with multiple-factor solutions were then orthogonally rotated, and items with weak loadings (i.e., .3 or less) on their respective factor were eliminated. Second, dimensionality and discriminant validity were then assessed using confirmatory factor procedures (LISREL 7.16). Goodness-of-fit indices and t -values associated with individual items were used to identify the final set of items representing each construct. Sequential chi-square difference tests between various theoretically driven alternative models were performed to determine the best fitting model. Finally, internal consistency was calculated using Cronbach's alpha. Scale properties and results of the factor analysis are provided in Appendix B.¹

Cognitive responses. We collected CRs as unaided causal explanations for why sales managers thought the salesperson performed poorly. We simply asked the sales managers to explain, in their own words, what factors may have caused poor performance. Four blank lines were provided for sales managers to write whatever thoughts came to mind. Two judges who were unaware of our hypotheses coded these CRs independently, using a master set of phrases developed for this study and based on Weiner's (1972) attribution categories. Because we expected this simple internal/external coding scheme to provide a response-set pattern with minimal distribution between the coders, Cohen's (1960) kappa is appropriate for interjudge reliability (Hughes and Garrett 1990). The overall Cohen's kappa of .851 in-

dicates a high degree of intercoder reliability. The range of kappa's for each variable is between .45 to 1.00, with all t -statistics significant.

A total of 476, or a mean of 2.18 CRs per sales manager, was provided. The 369 (64%) internal CRs were distributed as salesperson strategy, 62 (16.8%); salesperson selling skills, 169 (45.8%); salesperson attitude or motivation, 64 (17.3%); salesperson knowledge, 48 (13%); and unique, 26 (7%). The 107 (36%) external CRs include business-related causes, 66 (61.7%); salesperson personal problems, 22 (20.6%); and unique 19 (17.8%).

Manipulation checks. To assess treatment efficacy, MANOVA was run with the full-factorial model. The main effects of task and social treatments are strongly significant (task: Wilks' Lambda = .3237, $F = 212.04$, d.f. = 2, 203, $p < 0.0$; social: Wilks' Lambda = .4373, $F = 130.6$, d.f. = 2, 203, $p < 0.0$). Furthermore, ω^2 was calculated to confirm relative effect size. The ω^2 for the task factor on task attractiveness is larger ($\omega^2 = .70$) than that for the social factor ($\omega^2 = .02$). Similarly, the ω^2 for the social factor on social attractiveness is larger ($\omega^2 = .52$) than that for the task factor ($\omega^2 = .07$). Therefore, confounding does not appear to be a serious problem (Perdue and Summers 1986).

Communications regularity between the sales manager and the salesperson was assessed with three scales. Sales managers reported a median of one interaction per day with the salesperson evaluated. Cross-tabulations show that the task factor is related significantly to frequency of interaction ($p < .05$); the social factor, however, is not. Using 7-point scales (1 = much less than average; 7 = much more than average), sales managers also rated how frequent their interaction with the salesperson was for both personal and business reasons. When task and social attraction are positive, sales managers report more personal interactions (social: $F = 68.52$, d.f. = 1, 213, $p < .001$, $\omega^2 = .24$; task: $F = 5.05$, d.f. = 1, 213, $p < .05$, $\omega^2 = .01$), and more business interactions (task: $F = 10.62$, d.f. = 1, 213, $p < .01$, $\omega^2 = .05$; social: $F = 4.17$, d.f. = 1, 213, $p < .05$, $\omega^2 = .01$). These results corroborate the efficacy of the attraction manipulations.

The manipulation checks for information ambiguity were single-item, 7-point scales for distinctiveness, consistency, and ambiguity. MANOVA using the full-factorial model shows a significant result only for the main effect of ambiguity (Wilks' Lambda = .415, $F = 37.20$, d.f. = 6, 404, $p < .001$). The univariate contrasts are in the expected direction for distinctiveness ($F = 67.6$, d.f. = 2, 213, $p < .001$) and consistency ($F = 56.6$, d.f. = 2, 214, $p < .001$), but not for ambiguity. Hence, these results are mixed. Because the manipulation checks were collected last, the results may be attenuated. It may be that the measures most directly related to the actual treatments (i.e., consistency and distinctiveness) were less affected than the more general ambiguity item.

Experimental Results

We employed MANOVA using the full-factorial model to test the direct effects of information-ambiguity treatments

¹Detailed results of these analyses are available on request from the authors.

Table 1
MANOVA Results for the Dependent Measures

Independent Variable	Dependent Variable Sets							
	Causal Attributions ^a		Cognitive Responses ^b		Cognitive Effort/Confidence ^c		Corrective Actions ^d	
	Wilks' lambda	F-ratio (d.f.)	Wilks' lambda	F-ratio (d.f.)	Wilks' lambda	F-ratio (d.f.)	Wilks' lambda	F-ratio (d.f.)
Task Attraction (T _j)	.63	39.68* (3,201)	.92	8.67* (2,205)	.96	4.26** (2,203)	.88	8.62* (3,201)
Social Attraction (S _i)	.85	11.38* (3,201)	.98	2.34*** (2,205)	.92	8.95* (2,203)	.92	5.64* (3,201)
Information Type (I _k)	.87	4.86* (6,402)	.92	4.43* (4,410)	.97	1.10 (4,06)	.95	1.67 (6,402)
T _j × S _i	.96	2.74** (3,201)	.98	1.39 (2,205)	.94	5.53* (2,203)	.98	.91 (3,201)
T _j × I _k	.97	1.20 (6,402)	.99	.18 (4,410)	.98	.79 (4,406)	.98	.41 (6,402)
S _i × I _k	.97	.98 (6,404)	.97	1.44 (4,410)	.96	2.07*** (4,406)	.97	1.10 (6,402)
T _j × S _i × I _k	.98	.73 (6,402)	.98	.65 (4,410)	.98	.92 (4,406)	.94	2.15** (6,402)

^aDependent variables are internal motivation, internal ability, and external attributions

^bDependent variables are total internal and external cognitive responses.

^cDependent variables are cognitive effort and decision confidence.

^dDependent variables are coercive actions, nonpunitive actions, and no action.

* = $p < .01$.

** = $p < .05$.

*** = $p < .10$.

and task and social attraction on causal attributions (internal motivation, internal ability, and external attributions), cognitive responses (internal, external), attributional process indicators (cognitive effort, decision confidence), and corrective actions (coercive, nonpunitive, no action). The multivariate results (see Table 1) show that (1) task attraction strongly affects all four dependent variable sets ($p < .05$), (2) social attraction strongly affects all sets ($p < .05$) except CRs ($p < .10$),² (3) the T_j × S_i interaction significantly influences causal attributions and attributional processes ($p < .05$), and (4) information ambiguity strongly affects causal attributions and CRs ($p < .01$). However, the expected second-order interactions involving information ambiguity are not significant. In addition, the third-order interaction of T_j × I_k × S_i is significant only for corrective actions ($p < .05$). Because of these results, only the main effects and the T_j × S_i interactions are subsequently explored (see Table 2).

Causal attributions. Task and social attraction directly affect internal motivation attributions (task: $F = 111.03$, $p < .01$; social: $F = 12.13$, $p < .01$), internal ability attributions

(task: $F = 25.97$, $p < .01$; social: $F = 24.32$, $p < .01$), and external attributions (task: $F = 9.07$, $p < .01$; social: $F = 5.28$, $p < .01$). As we expected, sales managers are more inclined to make external attributions and less inclined to make internal attributions when evaluating a salesperson who is more positive in task and social attraction.

The T_j × S_i interaction results are mixed. The T_j × S_i interaction affects internal motivation ($F = 4.66$, $p < .05$) and internal ability ($F = 3.44$, $p < .10$) directly, but is nonsignificant for external attributions. Recall that congruent levels of task and social attraction were expected to synergistically magnify causal attributions. Incongruent levels of task and social attraction were expected to result in more moderate ratings. The cell means for motivation and ability are consistent with these expectations. To illustrate, the mean ratings for internal motivation are, with H = high, L = low, T = task-attraction level, and S = social-attraction level, HTHS, 2.88; HTLS, 3.73; LTHS, 4.73; and LTLS, 5.09. The effects of task and social attraction are clearly magnified in the congruent conditions; the incongruent conditions show moderate results; and the ordering is consistent with the expectation that task attraction dominates social attraction in sales contexts.

²Because this is a multivariate test and because of the exploratory nature of our study, MANOVA results with $p < .10$ are considered significant.

TABLE 2
ANOVA Results for the Dependent Measures

Dependent Variable	Independent Variables												
	Task Attraction (T ₁)			Social Attraction (S ₁)			Information Type (I ₁)			Task × Social Interactions			
	High mean (s.d.)	Low mean (s.d.)	F-ratio (d.f.)	High mean (s.d.)	Low mean (s.d.)	F-ratio (d.f.)	Amb ^a mean (s.d.)	Task ^b mean (s.d.)	Pers mean (s.d.)	HTHS mean (s.d.)	HTLS mean (s.d.)	LTHS mean (s.d.)	LTLS mean (s.d.)
Internal Motivation	3.28 (1.30)	4.96 (1.14)	111.03* (1,203)	3.76 (1.51)	4.33 (1.41)	12.13* (1,203)	3.94 ^{AB} (1.47)	3.68 ^A (4.45)	4.46 ^B (1.35)	2.88 ^A (1.21)	3.73 ^{BC} (1.25)	4.85 ^{BD} (1.06)	5.09 ^{BD} (1.22)
Internal Ability	3.54 (1.49)	4.48 (1.33)	25.97* (1,203)	3.52 (1.44)	4.46 (1.40)	24.32* (1,203)	3.59 ^A (1.48)	4.05 ^B (1.47)	4.22 ^{AB} (1.47)	2.97 (1.40)	4.21 (1.31)	4.22 (1.17)	4.78 (1.45)
External Attributions	3.46 (1.03)	3.00 (1.05)	9.07* (1,203)	3.42 (1.00)	3.06 (1.10)	5.28* (1,203)	3.25 ^{AB} (.84)	3.48 ^A (1.13)	3.02 ^B (1.16)	3.71 (.96)	3.15 (1.04)	3.06 (.95)	2.95 (1.17)
Internal Thoughts	1.54 (1.43)	1.89 (1.31)	3.41*** (1,206)	1.67 (1.50)	1.71 (1.26)	ns	1.49 ^A (1.23)	1.45 ^A (1.17)	2.14 ^B (1.64)	1.48 (1.65)	1.61 (1.13)	1.92 (1.25)	1.84 (1.39)
External Thoughts	.69 (.96)	.24 (.57)	16.18* (1,206)	.61 (.93)	.35 (.70)	4.56** (1,206)	.65 (.92)	.40 (.88)	.43 (.68)	.88 (1.07)	.48 (.76)	.27 (.56)	.20 (.58)
Cognitive Effort	5.48 (1.19)	5.07 (1.48)	6.65** (1,204)	5.61 (1.14)	4.94 (1.47)	19.28* (1,204)	5.35 (1.41)	5.13 (1.51)	5.42 (1.08)	5.66 (1.12)	5.28 (1.25)	5.54 (1.17)	4.53 (1.62)
Decision Confidence	4.23 (1.35)	4.59 (1.39)	4.80** (1,204)	4.20 (1.28)	4.62 (1.46)	6.91* (1,204)	4.27 (1.52)	4.59 (1.28)	4.31 (1.32)	4.28 ^B (1.24)	4.17 ^B (1.48)	4.10 ^B (1.34)	5.17 ^A (1.24)
Coercive Feedback	1.82 (.84)	2.36 (1.10)	18.11* (1,203)	1.86 (.94)	2.28 (1.11)	10.35* (1,203)	2.08 (1.18)	1.93 (.90)	2.15 (.88)	1.58 (.76)	2.09 (.85)	2.20 (1.04)	2.54 (1.15)
Nonpunitive Feedback	6.24 (.75)	6.00 (.83)	5.01** (1,203)	6.29 (.69)	5.95 (.87)	10.42* (1,203)	6.10 (.85)	6.05 (.74)	6.29 (.71)	6.35 (.68)	6.13 (.81)	6.22 (.70)	5.80 (.83)
No Action Feedback	2.16 (1.24)	1.86 (1.06)	3.49*** (1,203)	1.91 (1.06)	2.16 (1.29)	2.90*** (1,203)	2.10 (1.37)	2.00 (1.01)	1.89 (1.11)	2.04 (1.16)	2.30 (1.33)	1.75 (.90)	1.99 (1.21)

^aAmb = Ambiguous information scenario.

^bTask = Task difficulty information scenario.

^cPers = Person responsibility information scenario.

Note: Capital letters in the independent variables columns indicate significant differences in planned contrasts using Tukey procedures. Significant mean differences ($p < .05$ or better) are presented as two groups. The first group of significant mean differences is presented using the letters A versus B. The second group is presented using the letters C versus D. Means with the same letter, no letter, or BC-BD combination are not significantly different ($p > .05$).

* $p < .01$.

** $p < .05$.

*** $p < .10$.

Information ambiguity affects all causal attributions directly (internal motivation: $F = 7.99, p < .01$; internal ability: $F = 4.47, p < .01$; external: $F = 3.14, p < .05$). Sales managers agree more strongly that internal motivation is the problem when the personal-responsibility scenario (LLH) is compared to the task-difficulty (HHH) scenario (personal-responsibility mean = 4.46; task-difficulty mean = 3.68). In addition, sales managers agree more strongly that internal ability is the problem when the personal-responsibility (LLH) scenario is compared to the ambiguous scenario (personal-responsibility mean = 4.22; ambiguous mean = 3.59). However, the task-difficulty scenario does not differ significantly from either of these conditions. Finally, sales managers agree more strongly that external attributions are responsible when the task-difficulty scenario is compared to the personal-responsibility scenario (task-difficulty mean = 3.48; personal-responsibility mean = 3.02); yet, no significant differences in either case compared to the ambiguous scenario are noted. Thus, the hypothesis that ambiguous performance information moderates the effects of task and social attraction on causal attributions is not supported. The effects of the two unambiguous treatment contrasts on attributions are not significantly different from the ambiguous treatment's. These results suggest that the effects of social and task attraction on causal attributions are more general than we expected.

Cognitive responses. Task attraction affects external ($F = 16.18, p < .01$), but not internal, CRs directly. As we expected, the mean number of external CRs is higher (.69 versus .24) when task attraction is more positive. Social attraction affects only external CRs ($F = 4.56, p < .05$); and the number of external CRs is greater (.61 versus .35) when social attraction is more positive. These results corroborate our prior causal attribution observations, though the results are generally weaker.

Information ambiguity affects only the internal CRs directly ($F = 6.46, p < .01$). The personal-responsibility scenario generates significantly more internal CRs than do the other scenarios (personal-responsibility mean = 2.14; task-difficulty mean = 1.45; ambiguous mean = 1.49). This result is similar to that noted for the internal motivation and ability attributions.

Attributional processes. Task and social attraction directly affect both cognitive effort (task: $F = 6.65, p < .05$; social: $F = 19.28, p < .01$) and decision confidence (task: $F = 4.80, p < .05$; social: $F = 6.91, p < .01$). As we expected, sales managers report expending less cognitive effort when evaluating a poor-performing salesperson who is less attractive (task means = 5.07 versus 5.48; social means = 4.94 versus 5.61) than one who is more attractive. They also report greater decision confidence when evaluating the less-attractive salesperson (task means = 4.59 versus 4.23; social means = 4.62 versus 4.20). The $T_j \times S_i$ interaction affects decision confidence ($F = 10.41, p < .01$) strongly. The results show that relative to the other combinations of task and social attraction managers' decision confidence is significantly higher when the poor-performing salesperson is unattractive (i.e., LTLs). Overall, these results are consistent with our expectations that evaluating a poor performer

who benefits from task and social attraction is a relatively difficult and thoughtful attributional task compared to evaluating a less-attractive poor-performer.

Corrective feedback. We demonstrate that task and social attraction strongly affect causal attributions directly. To assess mediation, we show that task and social attraction (in the absence of the mediating causal attributions) affect corrective feedback directly. Task and social attraction strongly affect coercive feedback (task: $F = 18.11, p < .01$; social: $F = 10.35, p < .01$) and nonpunitive feedback (task: $F = 5.01, p < .05$; social: $F = 10.42, p < .01$), but do not significantly affect no action. Sales managers are less likely to use coercive feedback and more likely to provide nonpunitive feedback when the salesperson is positive in task and social attraction.³

The mediating role of causal attributions. To show that the effects of task and social attraction on corrective feedback are indirect, rather than direct, we employ two parallel procedures. Building directly on the analysis presented, we calculate the direct-effect sizes (F -ratios, ω^2) when ANCOVA is run with coercive and nonpunitive feedback as dependent variables and causal attributions as covariates. For coercive feedback, we find large ω^2 effect-size reductions for task (74%) and social (59%) attraction. For nonpunitive action, these reductions are only 29% for task and 7% for social attraction. Hence, we find strong evidence for causal attributions as mediators in the coercive model but not in the nonpunitive model. The relatively strong mediating role of attributions on coercive feedback may be because these actions are onerous (i.e., salary reduction or job termination), and justifiable cause seems reasonable.

Path analysis is useful when summarizing these direct and indirect effects (see Table 3).⁴ Task attraction directly affects internal attributions negatively (motivation = $-.558, p < .001$; ability = $-.312, p < .001$) and external attributions positively (.206, $p < .01$). Social attraction directly affects internal attributions negatively (motivation = $-.202, p < .001$; ability = $-.310, p < .001$) and external attributions positively (.166, $p < .05$). In the no-mediation model, task and social attraction directly affect coercive action negatively (task: $-.276, p < .01$; social: $-.215, p < .01$) and nonpunitive action positively (task: .166, $p < .01$; social: .189, $p < .01$). The empirical question is whether these direct effects of task and social attraction on feedback remain when causal attributions are introduced as mediators.

For each mediation model, the causal attributions add significantly to the explained variance (coercive: $\Delta R^2 = 5.4\%, p < .01$; nonpunitive: $\Delta R^2 = 6.5\%, p < .01$). In the coercive-feedback model (Figure 2), internal motivation (.191, $p < .05$) and internal ability (.144, $p < .05$) affect the use of coercive feedback positively. More important, task at-

³Examination of the significant $T_j \times S_i \times I_k$ interaction indicates that the effect is for corrective action only ($F = 3.66, p < .05$); the source of the interaction effect is the main effect of task and social attraction, so the data is best interpreted using the main effects (Winer 1971).

⁴Including information ambiguity in these regressions does not appreciably change the results.

traction no longer affects coercive feedback directly and the direct effect of social attraction is reduced ($-.147, p < .05$). The total effect of task attraction on coercive feedback is estimated at $-.152$, the sum of the motivation ($-.588 \times .191$) and ability ($-.312 \times .144$) indirect paths. The total effect of social attraction on coercive feedback is estimated at $-.159$, which is the direct effect ($-.147$) plus the indirect effects through attributions of motivation ($-.202 \times .191$) and ability ($-.310 \times .144$).

For nonpunitive feedback, task and social attraction retain their direct positive effects (task: $.178, p < .05$; social: $.218, p < .01$). External attributions are related negatively to nonpunitive feedback ($-.270, p < .01$). In retrospect, this unexpected result may be logical, because attributions to external events do not necessarily indicate that the sales manager should counsel or encourage the salesperson, unless the salesperson's productivity or attitude is in question. In summary, task and social attraction increase the use of nonpunitive feedback directly; external attributions lessen the use of such feedback (see Dubinsky, Skinner, and Whittler 1989). The total effect of task attraction is estimated to be $.122$ (the direct effect of $.178$ minus the indirect effect of $-.056$), and the total effect of social attraction is $.173$ (the direct effect of $.218$ minus the indirect effect of $-.045$).

Discussion

Sales manager evaluations shape sales force performance and guide promotion, pay, training, and termination decisions. Yet empirical research concerning sales manager per-

formance appraisals is surprisingly limited. We draw on prior conceptual and anecdotal evidence to develop and test a model that demonstrates the role of interpersonal affect and causal attributions in sales manager evaluation and feedback processes. These results have important implications for business practice. At the same time, our results provide interesting stimulation for further research, especially concerning how affect directly and indirectly influences performance appraisal processes and feedback choices. Our discussion reviews our findings and provides specific implications for business practice and further research.

Interpersonal affect and causal attributions. Do task and social attraction affect sales managers' causal attributions? The answer appears to be yes. And the specific results tell a simple, yet powerful, story. When poor performance is at issue, sales managers are influenced by interpersonal affect in assessing its cause. Specifically, sales managers more willingly attribute cause externally when the salesperson benefits from either task or social attraction and internally when the salesperson is lower in either task or social attraction. Moreover, internal attributions are magnified when task and social attraction are jointly examined. The salesperson who benefits from both task and social attraction is especially unlikely to have his or her motivation questioned. Finally, these interaction results for internal motivation support the view that sales managers stress task over social schemas when attributing cause (Futrell, Parasuraman, and Sager 1983; Jackson, Keith, and Schlacter 1983). In total, these results are important because they confirm prior con-

TABLE 3
Path Analysis Results: Standardized Regression Coefficients (t-value in parentheses)

	Dependent Variables						
	Causal Attribution Models			Coercive Models		Nonpunitive Models	
	Motivation attributions	Ability attributions	External attributions	No mediation	Mediation	No mediation	Mediation
<i>Independent Variables</i>							
Task attraction	$-.558^a$ (-10.12)	$-.312^a$ (-5.06)	2.06^a (3.10)	$-.276^a$ (-3.31)	$-.146$ (-1.86)	$.166^a$ (2.82)	$.178^b$ (2.21)
Social attraction	$-.202^a$ (-3.67)	$-.310^a$ (-5.03)	$.166^b$ (2.50)	$-.215^a$ (-4.26)	$-.147^b$ (-2.13)	$.189^b$ (2.48)	$.218^a$ (3.07)
Motivation attributions	—	—	—	—	$.191^b$ (2.28)	—	$-.073$ (-.085)
Ability attributions	—	—	—	—	$.144^b$ (1.98)	—	$-.004$ (-.05)
External attributions	—	—	—	—	$.114$ (1.69)	—	$-.270^a$ (-3.89)
	$R^2 = .354$ $F = 58.16$ $p < .000$	$R^2 = .195$ $F = 25.63$ $p < .000$	$R^2 = .07$ $F = 8.00$ $p < .000$	$R^2 = .123$ $F = 14.59$ $p < .000$	$R^2 = .177$ $F = 8.89$ $p < .000$	$R^2 = .063$ $F = 7.07$ $p < .01$	$R^2 = .128$ $F = 6.06$ $p < .000$
				Incremental	$R^2 = .054$ $F = 4.58$ $p < .01$	Incremental	$R^2 = .065$ $F = 5.11$ $p < .01$

^a = $p < .01$.

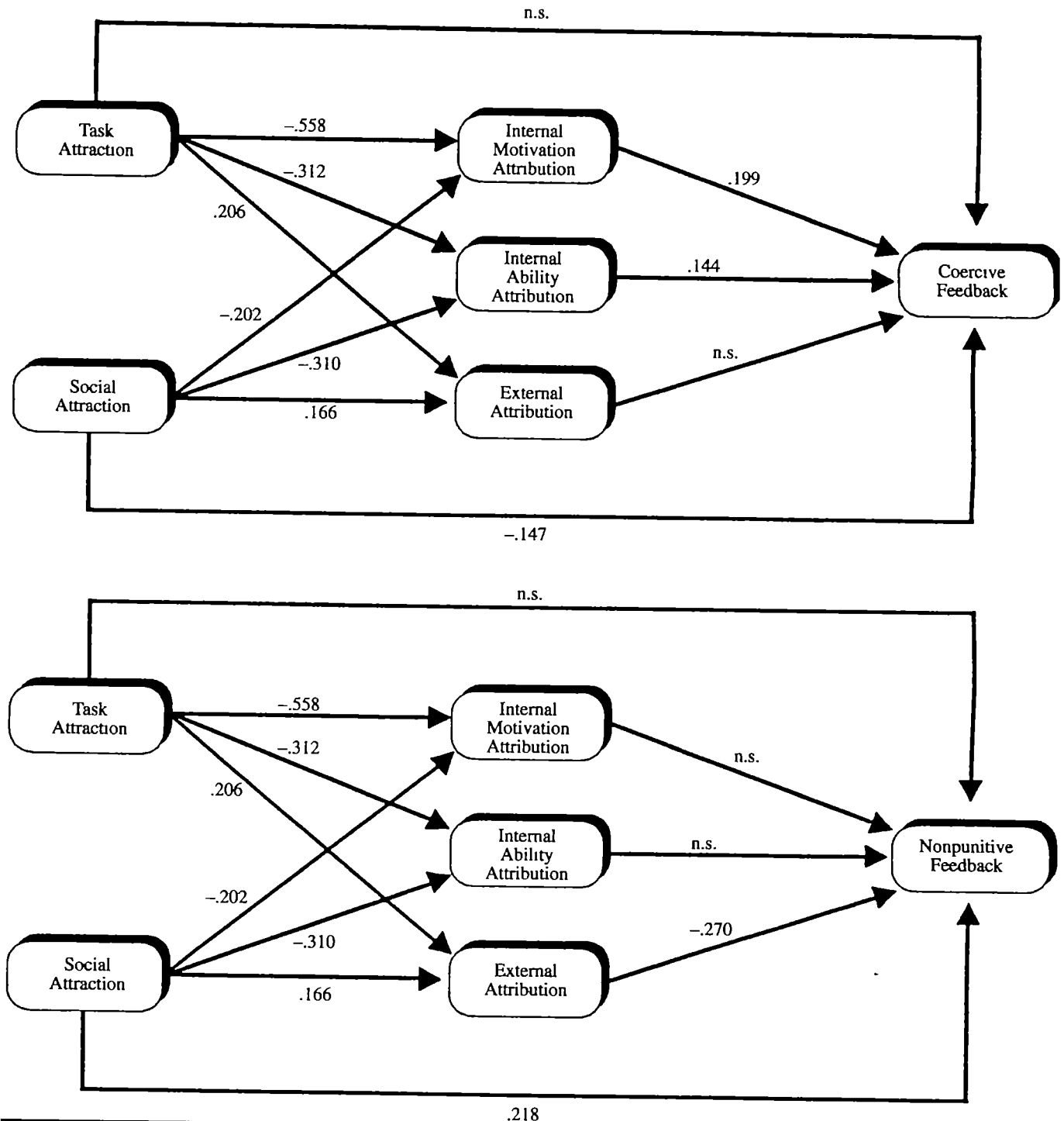
^b = $p < .05$.

ceptual and anecdotal views concerning the likely role of affect in causal attribution contexts. Furthermore, they suggest that sales managers attribute cause differently depending on a priori affect for the salesperson in question, and they provide the basis for expecting that causal attributions play a role in mediating managers' feedback choices.

Interpersonal affect and the attributional process. Do task and social attraction affect the amount of effort and

thought devoted to the attributional process? Again, the answer appears to be yes. More important, the results provide further support for the attributional-process model. When poor performance is at issue, sales managers report more effort in attributing cause when the salesperson benefits from either task or social attraction. Moreover, they report less decision confidence when evaluating the poor performance of a salesperson who benefits from task or social attraction.

FIGURE 2
Path Analysis Models for Corrective and Nonpunitive Feedback



Decision confidence is especially strong when both task and social attraction are lacking. When judging such a salesperson, the sales manager is highly confident in attributing cause internally.

We collected CRs as freely elicited indicators of causal attributions and the amount of thought invested in the attributional process. To our knowledge, CRs have not been examined in managerial evaluation tasks. Hence, a base rate on the number of CRs was not available. We found an average of 2.18 thoughts per sales manager; total CRs are not affected by task or social attraction. However, sales managers provide a greater number of external CRs when the salesperson benefits from task or social attraction. These results corroborate (1) the prior results for the causal attributions, (2) the results that the sales manager finds it more difficult to judge failure by a relatively attractive salesperson, and (3) the usefulness of CRs in research concerning performance appraisals.

In general, these process results support the attributional model. In conjunction with the causal attributions results, these process indicators provide strong support for the view that interpersonal affect is not only integral (Cardy and Dobbins 1986) to the sales evaluation process, but also operates in a fashion consistent with the expectations model of the attribution process (Gentry, Mowen, and Tasaki 1991). It should be noted, however, that the predictions of alternative-process models (i.e., the vertical-dyad model for example) have been neither specified nor empirically tested. Thus, more attention to the underlying processes involved in managerial evaluations and feedback is needed (Jaworski and Kohli 1991).

Interpersonal affect and corrective feedback. Do task and social attraction affect the corrective feedback process? If so, how are these effects realized? Subject to further empirical research, it appears that both direct and indirect effects (through causal attributions) are operative. For our purposes, it is important to reiterate that task and social attraction (1) affect internal and external attributions directly and (2) in the absence of the mediating role of these causal attributions, affect coercive and nonpunitive feedback directly. Hence, the conditions necessary for examining the mediating effects of causal attributions were met.

For corrective feedback, we find relatively strong mediating effects for internal motivation and internal ability attributions. The direct effects of task attraction on coercive feedback are eliminated in the mediation model. The direct effects of social attraction are attenuated strongly but remain significant. In other words, our results provide evidence for the mediating role of causal attribution as a process explanation for coercive feedback. This is especially true for task attraction. However, the presence of a direct effect of social attraction indicates that other process explanations may be operative and must be examined in additional research.

For nonpunitive feedback, we find a mediating effect for external attributions. Contrary to our expectations, however, this effect is negative, and both task and social attraction show strong direct effects. This result, in retrospect, may be explained by external attribution of cause not being sufficient to motivate sales managers to counsel or coach the

salesperson. In fact, unless the salesperson's productivity or job attitudes are at risk, external attributions might provide a convenient rationale for the sales manager to conserve personal time and resources. In either case, Weiner's (1983) admonitions concerning the complexities of designing attributional field studies should be revisited. This result also reiterates the need to examine alternative-process models that may be operative in driving feedback choices.

Information ambiguity. Does information ambiguity moderate the effects of task and social attraction? Maybe not. We found only main effects for information ambiguity. This may indicate that interpersonal affect plays a stronger role than was implied in the literature. Alternatively, our manipulations may require further refinement. Yet, because of its prominent role in previous attributional research, more attention to information ambiguity in sales-evaluation contexts is indicated.

Managerial Implications

Sales managers are exhorted to be objective in their performance appraisals (Gentry, Mowen, and Tasaki 1991); yet, realistically, a host of subjective factors influence these appraisals. To counteract these subjective biases (or halo effects), a variety of performance-rating formats and procedures (e.g., behavioral anchored scales) have been suggested. Hence, the fact that interpersonal affect plays a role in sales evaluations in our study is not surprising. The managerial relevance of our results derives from insights concerning the processes involved in how affect influences sales evaluations and, perhaps independently, feedback choices. As Atkin and Conlon (1978) note, meaningful advancements in appraisal practices require a process-oriented understanding of raters' information processing (see also Cardy and Dobbins 1986).

Our results indicate that more than subjective rating bias is involved in performance appraisal and feedback. They suggest that when salespersons benefit from a priori task and social attraction, sales managers actively and selectively discount internal responsibility while bolstering external explanations. That sales managers report greater effort and lower decision confidence when making this judgment supports this view. The implication is that the influence of affect in appraisals is more than perceptual; hence, though methods for improving ratings accuracy may be useful, they do not solve the problem alone. Programs to improve performance appraisals must consider perceptual, attributional, and affective processes.

Sales managers' use of coercive feedback is influenced by causal attributions. Coercive feedback is less likely to be used when the salesperson benefits from positive task or social attraction, apparently because internal attributions are suppressed. On the other hand, the less-attractive salesperson is likely to receive coercive feedback because internal motivation and ability provide logical and convenient explanations. One implication is that the same failure is evaluated differently for more- and less-attractive salespersons. To the degree that this behavior is perceived as unjust, this sort of managerial feedback problem can undermine sales-

person motivation and performance (Podsakoff and MacKenzie 1994).

Another managerial implication stems from the roots of this motivational effect. A reasonable assumption is that salespeople conduct self-evaluations (Jaworski and Kohli 1991) and compare themselves with other salespeople (Podsakoff and MacKenzie 1994). If the sales manager avoids coercive feedback when task attraction is positive—which our mediation results suggest—then the sales manager's tolerance of failure may be perceived as just (i.e., the salesperson has earned the benefit of the doubt). In fact, avoiding the use of coercive feedback in this situation, or even when the salesperson is a novice (i.e., task attraction is unknown), may trigger a positive motivational cycle (Podsakoff and MacKenzie 1994). On the other hand, the failure to use coercive action, when it is justified, may undermine the expectancies and instrumentalities underlying motivation. In summary, task attraction may be functionally positive in performance contexts, especially if salespersons are informed that these issues are considered in assessing short-term performance (see Podsakoff and MacKenzie 1994).

The motivational consequences of failing to use coercive feedback because of the mediation of social attraction are potentially ominous. Managerial tolerance of a "liked" salesperson's failure is likely to be perceived as unjust, which may trigger a negative motivational cycle that (1) weakens instrumentalities relating performance to rewards or sanctions and (2) generates perceived inequities and negative job attitudes or behaviors (Podsakoff and MacKenzie 1994). Hence, the effects of social attraction require particular attention in the evaluation and feedback process.

Coercive feedback is onerous. Hence, the strong role of social and task attraction and the mediating role of internal attributions appear consistent with the need for justification before taking these actions. However, it should also be noted that social attraction reduces the use of coercive feedback directly. In addition, both task and social attraction affect the use of nonpunitive feedback directly. One potential implication is that regardless of causal attributions sales managers use supportive, rather than coercive, feedback with liked salespersons. The underlying basis for social attraction and the consequences of differential feedback choices should be carefully considered by managers—and should be investigated in further studies.

Traditional programs for improving appraisal processes focus on removing affect as a source of bias (Cardy and Dobbins 1986). Our perspective is that various methods of improving performance evaluations should be tried, including role-plays designed to help pinpoint evaluation errors (Latham and Wexley 1977), training in the use of behaviorally anchored rating scales, use of field notes to provide concrete behavioral indicators (Bernadin and Walter 1977), and development of historical territory and personal data files. However, effective performance appraisal also requires understanding the more complex attributional and feedback choice processes. The issues are how is a shared understanding of the process of attributing cause to performance outcomes to be developed, what are the functional

and dysfunctional roles of task and social attraction in sales appraisals, and how are perceived injustices to be handled.

Research Directions and Limitations

Our model stresses the attribution process for the poor-performance context. Yet, distinct attributional processes may be involved in appraising success versus failure (Gioia and Sims 1986). Empirical examination of the more general model of success and failure, including the role of affect and other cognitive biases (Weiner 1980), is indicated. We found few process models examining success and positive feedback. Positive feedback, especially if it is behavioral, informs the salesperson how to improve sales performance and enhances motivation; negative feedback informs, but has a questionable effect on motivation (Jaworski and Kohli 1991). In either case, further research concerning the processes underlying both positive and negative feedback is needed.

Our model specifies a direct effect of salesperson attraction on causal attributions. The model is entirely reconcilable, conceptually and mathematically, with models examining both success and failure. Hence, salesperson attraction could be modeled as a moderator of the linkage between sales performance and causal attribution (Green and Mitchell 1979). This would provide an assessment of the role of affect in both success and failure contexts. We encourage further attention to cognitive effort, information search, decision confidence, cognitive responses, and process measures. Systematic research aimed at understanding when and under what conditions thoughtful or heuristic attributional processes are involved in performance appraisals is essential.

A variety of affective and cognitive heuristics may be operative in salesperson-evaluation and achievement contexts. Further conceptual specification of the domain of interpersonal affect is indicated. In addition, a variety of cognitive heuristics, including salesperson familiarity, prior work history, and organizational citizenship behaviors, may operate through the attributional process. It is important to note that affective and cognitive moderators may have either functional or dysfunctional effects on appraisals and feedback. For example, we typically think of bias as being negative (i.e., favoritism) and having negative consequences (i.e., conflict). However, positive affect may cause a sales manager to stick with a salesperson during difficult periods or avoid punitive measures that might yield premature turnover. Furthermore, heuristics are often employed exactly because they yield good decisions under normal circumstances (Cialdini 1984). Finally, increased use of team-based selling may indicate a complex role for interpersonal affect, including functional effects for social attraction itself. Hence, research examining the positive aspects of affect and heuristics in sales-performance contexts is indicated.

Our results suggest that task and social attraction may operate through differential processes. Task attraction, because it is work related, may follow the attributional model; social attraction, because of its personal basis, may not. The

vertical-dyad (Tanner and Castleberry 1990) or norm-of-reciprocity (Podsakoff and MacKenzie 1994) views may account for the direct effects we noted. We believe that the attribution model is powerful in explaining sales managers' immediate performance evaluations, as well as their more permanent perceptions of salesperson capabilities and traits; however, alternate models may influence feedback choices.

A variety of moderators other than affect may be operative in feedback selection. Salesperson work history, credibility, seniority, and influence with senior managers are examples of potential moderators of the attribution-feedback linkage. A particularly salient and practically relevant class of moderators might be the mental models held by sales managers with respect to how feedback affects salesperson performance (Fiol and Huff 1992). These job-related cognitions may be a better predictor of feedback use than the general personality or cognitive style of the sales manager.

Sales manager feedback must be accepted by sales personnel if performance is to be affected (Jaworski and Kohli 1991). Hence, a particularly important research issue involves salesperson self-evaluations. Specifically, empirical research concerning the similarities and distinctions in how sales managers and sales personnel attribute cause is indicated. Attribution theory suggests that there are fundamental differences in how cause is assigned, depending on whether the self or someone else is being evaluated. Thus, sales manager and salesperson attributions may systematically differ

in ways that may affect the acceptability of feedback, as well as perceptions of fairness and justice.

Two research limitations should be noted. First, our sales managers responded to a single episode that varied in consensus, distinctiveness, and consistency performance data. Additional studies might systematically vary the breadth and depth of performance. Increasing the type and amount of information available, the manner in which it was presented, or its strength or extremity can help assess fully the causal reasoning processes, attributions, and contingencies involved in sales evaluations. The purpose of the sales evaluation could also be varied to better control or examine the effects of evaluation tasks on how managers interpret available performance data.

Second, the dependent variables were drawn from prior research. The internal-attributions scales show good measurement properties. However, our external-attribution scales show relatively low reliability. In addition, the corrective feedback measures may not sample fully the domain of sales manager actions relevant to these contexts. Hence, though our measures appear adequate, further attention is needed. Replication with other sales manager samples and use of longitudinal research designs are needed to increase generalizability and provide a more stringent test of the causal and potentially reciprocal role of affect and attributions in the feedback process (Podsakoff and MacKenzie 1994).

APPENDIX A

PART I: Task and Social Attraction Manipulation

High Task/High Social Cue

I work well with (insert first name) _____ and consider our work relationship to be very effective. If I need something done, I can count on him/her. I respect and trust _____'s work ethic and ability.

In addition, _____ is very similar to me socially and would probably fit into my circle of friends. I personally like _____ and we have a very good social relationship outside the office (or could have if circumstances allowed).

High Task/Low Social Cue

I work well with (insert first name) _____ and consider our work relationship to be very effective. If I need something done, I can count on him/her. I respect and trust _____'s work ethic and ability.

PART II: Performance Ambiguity Manipulation

You recently learned that (write in name) _____ lost a major account this past quarter. The loss of this account will substantially decrease your region's future sales revenue. *Meeting quota for you, or this salesperson, is unlikely without this account.* Below are the performance numbers for the evaluation:

Ambiguous Information Cues

Major Accounts:

•You have determined that (write in name) _____ lost a major account this quarter (see data in left column):

•Despite the recent lost account last quarter, this person performed well with major accounts last year (see data in far right column):

Other Accounts (excluding major accounts):

•Despite the problem with the lost account, this person has produced strong sales volumes for other customer groups:

Comparison Performance Data for All Other Salespeople on Your Sales Staff:

Major Accounts:

•Other salespeople have performed well with their major accounts on average:

•All other salespeople have performed as expected and have retained their major accounts on average:

Sales Volume

First Quarter	Previous Year
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Actual (Quota)	\$ 500 (45,000)	
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Actual (Quota)		\$136,000 (135,000)
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Actual (Quota)	31,000 (30,000)	89,000 (90,000)
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Actual (Quota)	45,000 (45,000)
----------------	-----------------

Actual (Quota)	135,500 (135,000)
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APPENDIX A Continued

Despite our good working relationship, _____ is completely different from me socially and would not fit into my circle of friends. Because _____ has an abrasive and unpleasant personality, we could never have a close personal relationship.

Other Accounts (excluding major accounts):

- The average salesperson has performed very well with other customer groups:

Actual
(Quota)

Sales Volume	
First Quarter	Previous Year
\$30,000 (30,000)	\$89,000 (90,000)

Low Task/High Social Cue

I do not work well with (insert first name) _____ and consider our work relationship to be very ineffective. If I need something done, I cannot count on him/her. I do not respect nor trust _____'s work ethic and ability.

Despite our poor working relationship, _____ is very similar to me socially and would probably fit into my circle of friends. I personally like _____ and we have a very good social relationship outside the office (or could have if circumstances allowed).

Person Responsibility Information Cues

Major Accounts:

- You have determined that (write in name) _____ lost a major account this quarter (see data in left column):
- This salesperson also had a history of losing large accounts (see data in far right column):

Actual
(Quota)

Actual
(Quota)

Sales Volume	
First Quarter	Previous Year
\$ 500 (45,000)	
	\$ 20,500 (135,000)

Other Accounts (excluding major accounts):

- This person has not performed as expected for other customer groups:

Actual
(Quota)

First Quarter	Previous Year
3,000 (30,000)	30,000 (90,000)

Comparison Performance Data for All Other Salespeople on Your Sales Staff:

Major Accounts:

- Other salespeople have performed well with their major accounts on average.
- All other salespeople have performed as expected and have retained their major accounts on average:

Actual
(Quota)

Actual
(Quota)

First Quarter	Previous Year
45,000 (45,000)	
	135,000 (135,000)

Other Accounts (excluding major accounts):

- The average salesperson has performed very well with other customer groups:

Actual
(Quota)

First Quarter	Previous Year
30,000 (30,000)	89,000 (90,000)

Low Task/Low Social Cue

I do not work well with (insert first name) _____ and consider our work relationship to be very ineffective. If I need something done, I cannot count on him/her. I do not respect nor trust _____'s work ethic and ability.

In addition to our poor working relationship, _____ is completely different from me socially and would not fit into my circle of friends. Because _____ has an abrasive and unpleasant personality, we could never have a close personal relationship.

Task Difficulty Information Cues

Major Accounts:

- You have determined that (write in name) _____ lost a major account this quarter (see data in left column):
- The data indicates this person has had a continual problem with these types of accounts (see data in far right column):

Actual
(Quota)

Actual
(Quota)

Sales Volume	
First Quarter	Previous Year
\$500 (45,000)	
	\$20,500 (135,000)

Other Accounts (excluding major accounts):

- Despite problems with major accounts, this person has produced strong sales volumes for other customer groups:

Actual
(Quota)

First Quarter	Previous Year
31,000 (30,000)	89,000 (90,000)

		Sales Volume	
		First Quarter	Previous Year
Comparison Performance Data for All Other Salespeople on Your Sales Staff			
Major Accounts:			
•Other salespeople on average have lost major accounts, similar to this salesperson's lost account.	Actual (Quota)	\$500 (45,000)	
•All other salespeople have also performed poorly Y-T-D on major accounts.			\$21,000 (135,000)
All Accounts (excluding major accounts):			
•Despite problems with major accounts, the average salesperson has performed very well with other customer groups.		30,000 (30,000)	89,000 (90,000)

Note: Task appears first in each of these scenarios in this appendix. However, social preceded task in one-half of the market surveys to avoid any order bias. These scenarios were not included in this Appendix A.

APPENDIX B

Factor Analysis of Task/Social Attraction (% of variance explained = .74)

Factor: Task Attraction ($\alpha = .92$)	Factor Loadings		
	F1		IIC ^a
I have confidence in this salesperson's ability.	.82	.18	.81
This person is an effective problem solver.	.86	.26	.83
He (she) appears to goof-off when in the field.	.79	.15	.70
If I wanted to get things done, I could depend on this person.	.89	.19	.85
I couldn't get anything accomplished with this person.	.82	.18	.75
Factor: Social Attraction ($\alpha = .90$)	Factor Loadings		
	F2		IIC
I think he (she) could be a friend of mine.	.16	.87	.80
It would be difficult to meet and talk with this person.	.29	.74	.69
He (she) just wouldn't fit into my circle of friends.	.14	.82	.73
I would like to have a friendly chat with this person.	.22	.77	.69
We could never establish a personal friendship with each other.	.18	.90	.86

Goodness-of-Fit Summary for Attraction Scale

Model	DF ^b	χ^2	GFI ^c	AGFI ^d	RMSR ^e
Model 1: Error-Only Model	45	1507.72	.297	.141	1.589
Model 2: One-Factor Model	35	548.22	.575	.332	6.14
Model 3: Two-Factor Model	34	79.29	.938	.899	.131
χ^2 Difference Tests					
Model 1-Model 3		11			1428.43 ($p < .01$)
Model 1-Model 2		10			959.50 ($p < .01$)
Model 2-Model 3		1			463.71 ($p < .01$)

Factor Analysis of Causal Attributions (% of variance explained = .60)

I would probably look to blame the lost major account on ...

Factor: Internal Attributions-Motivation ($\alpha = .83$)	Factor Loadings			
	F1			IIC
a lack of sufficient effort.	.84	.05	-.09	.70
working less effectively than the average representative.	.81	.12	-.19	.69
the fact that s/he is an unmotivated individual.	.74	.28	-.01	.80
this person's usual reluctance to make the required number of sales calls to maintain the types of accounts.	.74	.21	-.16	.80

Goodness-of-Fit Summary for Attribution Scale

Model	DF	χ^2	GFI	AGFI	RMSR
Model 1: Error-Only Model	55	679.58	.544	.452	.861
Model 2: One-Factor Model	44	246.42	.811	.716	.352
Model 3: Two-Factor Model	43	208.22	.834	.745	.234
Model 4: Three-Factor	41	92.12	.930	.887	.224

APPENDIX B Continued

Factor: Internal Attributions- Ability ($\alpha = .73$)	Factor Loadings				χ^2 Difference Tests		
	F2		IIC				
Inadequate selling skills for major account presentations.	.23	.85	-.02	.68	Model 1-Model 4	14	587.46 ($p < .01$)
Inadequate product knowledge to sell to this type of customer.	.13	.80	-.04	.55	Model 2-Model 4	3	154.30 ($p < .01$)
Not possessing the personality to develop, or keep strong customer relations.	.21	.65	-.10	.46	Model 3-Model 4	2	116.10 ($p < .01$)
Factor: External Attributions ($\alpha = .54$)							
	F3		IIC				
the lack of our product's competitive advantage in this type of market.	-.05	-.02	.80	.46			
our support staff, or service department, provided poor service to this customer.	.03	-.24	.68	.30			
Inadequate support provided to this salesperson to maintain the necessary market/ product knowledge.	-.26	.39	.53	.27			
the excessive competitive intensity in this type of market.	-.30	-.03	.51	.28			

Factor Analysis of Attributional Process Indicators (% of variance explained = .73)

Factor: Cognitive Effort ($\alpha = .77$)	Factor Loadings			
	F1		IIC	
I would be very careful before I made conclusions in this particular situation.	.79	-.19	.58	
I would make sure I had all the facts before I made a decision in this case.	.87	.02	.60	
It is difficult to make a decision without more data.	.77	-.34	.62	
Factor: Confidence ($\alpha = .61$)				
	F2		IIC	
My confidence in this evaluation is high.	-.01	.90	.45	
The performance information provides adequate information to base a conclusion of this particular salesperson's problems.	-.36	.75	.45	

Goodness-of-Fit Summary for Attributional Process Scale

Model	DF	χ^2	GFI	AGFI	RMSR
Model 1: Error-Only Model	10	281.61	.604	.406	.893
Model 2: One-Factor Model	5	42.25	.923	.768	.211
Model 3: Two-Factor Model	4	14.34	.975	.905	.108

χ^2 Difference Tests

Model 1-Model 3	6	267.27 ($p < .01$)
Model 1-Model 2	5	239.36 ($p < .01$)

Factor Analysis of Corrective Actions (% of variance explained = .60)

Factor: Coercive Actions ($\alpha = .80$)	Factor Loadings			
	F1		IIC	
Threaten to fire this salesperson.	.74	-.24	-.14	.66
Scold this salesperson.	.75	.07	.05	.53
Fire this salesperson.	.68	-.26	-.10	.58
Deduct a portion of salary.	.68	-.40	.07	.64
Threaten to deduct salary.	.61	-.36	-.20	.56
Transfer this salesperson to another territory.	.66	.09	.24	.43

Goodness-of-Fit Summary for Corrective Actions Scale

Model	DF	χ^2	GFI	AGFI	RMSR
Model 1: Error-Only Model	55	634.39	.535	.442	.476
Model 2: Two-Factor Model	43	110.57	.912	.865	.138
Model 3: Three-Factor Model	41	80.43	.937	.899	.092

Factor: Nonpunitive Actions ($\alpha = .71$)	Factor Loadings			
		F2		IIC
Counsel this salesperson.	-.22	.80	-.07	.60
Meet with this salesperson to discuss possible problems.	.07	.78	-.05	.50
Encourage this salesperson to improve.	-.11	.69	-.29	.51
Factor: No Action ($\alpha = .53$)				
Do nothing at all.	.04	-.08	.83	.38
Take no immediate action.	-.07	-.19	.74	.38

^aIIC = Interitem correlations.

^bDF = Degrees of freedom.

^cGFI = Goodness-of-fit index.

^dAGFI = Adjusted goodness-of-fit index.

^eRMSR = Root mean square residual.

χ^2 Difference Tests		
Model 1–Model 3	14	553.96 ($p < .01$)
Model 1–Model 2	12	523.82 ($p < .01$)
Model 2–Model 3	2	30.14 ($p < .01$)

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Improving the Store Environment: Do Olfactory Cues Affect Evaluations and Behaviors?

The popular press has recently reported that managers of retail and service outlets are diffusing scents into their stores to create more positive environments and develop a competitive advantage. These efforts are occurring despite there being no scholarly research supporting the use of scent in store environments. The authors present a review of theoretically relevant work from environmental psychology and olfaction research and a study examining the effects of ambient scent in a simulated retail environment. In the reported study, the authors find a difference between evaluations of and behaviors in a scented store environment and those in an unscented store environment. Their findings provide guidelines for managers of retail and service outlets concerning the benefits of scenting store environments.

Managers of retail and service outlets are increasingly recognizing that the store environment significantly affects sales (Milliman 1982, 1986; Smith and Curnow 1966; Stanley and Sewall 1976), product evaluations (Bitner 1986; Rappoport 1982; Wheatley and Chiu 1977), and satisfaction (Bitner 1990; Harrell, Hutt, and Anderson 1980). In fact, it has been shown that attitudes toward the store environment are sometimes more important in determining store choice than are attitudes toward the merchandise (Darden, Erdem, and Darden 1983). Researchers have investigated several dimensions of the store environment, including music (Bruner 1990; Milliman 1982, 1986; Yalch and Spangenberg 1988, 1990, 1993), color (Belizzi, Crowley, and Hasty 1983; Crowley 1993), clutter and cleanliness (Bitner 1990; Gardner and Siomkos 1985), lighting (Golden and Zimmerman 1986), crowding, (Harrell and Hutt 1976a, b; Hui and Bateson 1991), and many others (for a review, see Baker, Grewal, and Parasuraman 1994).

An underdeveloped aspect of the store environment that is of interest to retailers and service providers is its scent. Specialty stores, such as bakeries, coffee shops, tobacco shops, and popcorn and nut shops (e.g., Borowsky 1987; Shappro 1986; Simmons 1988), have long relied on the scent of their products to draw customers (Bone and Ellen 1994). Recently, however, service providers and managers of stores carrying diverse product lines or products not having a distinctive scent have employed olfaction consultants to develop customized fragrances to diffuse throughout their

stores (Miller 1993). *Ambient scent*—scent that is not emanating from a particular object but is present in the environment—may be of greater interest than product-specific scents, because it could affect perceptions of the store and all its products, including those products that are difficult to scent (e.g., office supplies and furniture; Gulas and Bloch 1995). Reports in the popular press provide examples of this activity. The *Wall Street Journal* reports that pleasant scents increase lingering time in stores (Lipman 1990) and that one Marriott hotel scents its lobby to alleviate stress (Pacelle 1992). Furthermore, proprietary research purportedly shows a 45% increase in slot machine use in scented casinos (Hirsch and Gay 1992).

Unfortunately, the significance of these findings is unclear because the research has not been conducted in controlled environments nor has it been submitted to rigorous statistical analyses. For example, a highly publicized finding that Nike athletic shoes were evaluated more positively in a scented than in an unscented environment (Hirsch and Gay 1991; Miller 1991) is actually not statistically significant (Bone and Ellen 1994). Despite the increased interest, potential expense, and time involved in scenting retail environments, there is no scholarly research published that demonstrates the effects of ambient scent on the evaluations of a store, its products, or customers' shopping behaviors within the store.

Some conceptual work exists that postulates effects of ambient scent on consumer evaluations and shopping behaviors. Literature from diverse disciplines provide theoretical grounding for a conceptual framework that Bitner (1992) advances for exploring the impact of physical surroundings on the behaviors of both customers and employees. Among several others, one of the environmental dimensions Bitner includes as an input in her model is ambient odor. Drawing from Bitner's framework, Gulas and Bloch (1995) develop a model portraying ambient scent specifical-

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ly as an environmental cue that they compare with scent preferences to influence emotional responses and ultimately shopping behaviors. Both of these models are congruent with general models of environmental effects (e.g., Mehrabian and Russell 1974). Thus, though virtually no consumer studies have been conducted, there is ample theoretical justification for the empirical study of the effects of ambient scent on consumer responses.

Our purpose is to determine whether ambient scent affects store and product evaluations and/or shopping behaviors. The most common theoretical basis for studying the effects of scent on the shopping environment is drawn from environmental psychology. We review this research and olfaction literature in our hypothesis development. We then report the results of a pretest and an experiment. Finally, we draw conclusions, suggest avenues for further research, and discuss managerial implications.

Environmental Psychology

Environmental psychology draws from the stimulus-organism-response (S-O-R) paradigm, which posits that the environment is a stimulus (S) containing cues that combine to affect people's internal evaluations (O), which in turn create approach/avoidance responses (R) (e.g., Craik 1973; Mehrabian and Russell 1974; Russell and Pratt 1980; Stokols 1978). Psychologists suggest that people respond to environments with two general, contrasting forms of behavior: approach and avoidance (Mehrabian and Russell 1974). Approach behaviors include all positive behaviors that might be directed at the environment; for example, a desire to remain in a store and explore its offerings could be construed as an approach response. Avoidance behaviors reflect contrasting responses; that is, a desire to leave a store or not to browse represents avoidance behavior. Some form of these two general responses are the postulated output variables in Bitner's (1992) and Gulas and Bloch's (1995) models. (For reviews of environmental psychology in a marketing context, see Bitner 1992; Donovan and Rossiter 1982; Ridgway, Dawson, and Bloch 1990.)

An environment's characteristics are thought to combine to determine both how affectively pleasing and arousing or activating the environment is. We define *affect* as a general descriptor of a positive or negative state of emotion or feeling. An *affective response*, then, is an emotional reaction to an entity with which a person has come into psychological contact (Bower 1981). *Arousal* is conceptualized as a physiological "feeling state" that is most directly assessed by verbal report (Berlyne 1960; Mehrabian and Russell 1974). The construct of arousal is often referred to in environmental psychology literature as *load*. A high-load (arousing) pleasant environment produces approach behaviors, whereas a high-load unpleasant environment produces avoidance behaviors. A low-load environment is not activating enough to motivate any measurable approach/avoidance behavior.

The S-O-R paradigm has taken a fairly straightforward form in marketing research. The stimulus cues (S) that have been studied include those previously mentioned (e.g., music, color, lighting) as well as scent, the focus of this study. Research on characteristics of the environment typi-

cally begins with calibrating the stimuli in terms of their affective and arousing qualities, as well as other stimulus-specific characteristics, such as tempo for music or saturation for color. Environments are then developed that vary along the dimensions of one of these stimulus cues (e.g., a store with liked music versus disliked music in respective conditions).

The internal evaluations (O) that have been studied in marketing include evaluations of the affective and arousing nature of the environment as a whole, as well as evaluations of merchandise selection, prices, quality, and so on (e.g., Bellizzi, Crowley, and Hasty 1983). Russell and Pratt (1980) find the affective and arousing nature of the environment to be independent dimensions. Berlyne (1971, 1974) suggests that affect and arousal are related such that arousal influences affect directly. Supporting this view in the only marketing study to examine the dimensionality of evaluations of the environment, Crowley (1993) finds two correlated dimensions of affect and activation, with activation being similar to arousal. Finally, the approach/avoidance behaviors studied in marketing, which are the response (R) portion of the S-O-R paradigm, include measures of the level of product examination, time spent in the store, intent to visit the store, social interaction with personnel, and money spent (Bitner 1992; Donovan and Rossiter 1982; Ridgway, Dawson, and Bloch 1990; Yalch and Spangenberg 1988, 1990).

Marketing research grounded in environmental psychology has successfully linked environmental stimuli (S) with evaluative responses (O) and approach/avoidance behaviors (R). For example, color has been shown to affect liking of the store and perceptions of merchandise (Bellizzi, Crowley, and Hasty 1983; Crowley 1993). Clutter in the environment negatively affects satisfaction and attributions made concerning services (Bitner 1990). Crowding can change the use of in-store information, satisfaction, and enjoyment of the shopping environment (Eroglu and Machleit 1990; Harrell, Hutt, and Anderson 1980). Increasing the tempo and intensity of in-store music has been shown to reduce the time consumers spend in the store, thus linking an environmental characteristic with an avoidance behavior (e.g., Milliman 1982, 1986). A further effect of environmental music regards consumers' perceptions of time; different types of environmental music have been shown to shorten or lengthen the perceived amount of time spent (relative to actual time spent) in retail environments (e.g., Yalch and Spangenberg 1988, 1990). Finally, Bitner (1992), Bone and Ellen (1994), and Gulas and Bloch (1995) make links for scent at the theoretical level. These findings show clearly that environmental features affect evaluations of a store and its products, as well as in-store behaviors. Environmental psychology is therefore useful in identifying appropriate methods and measures for studying the effects of ambient scent on responses to a store. We next provide justification for examining ambient scent as a stimulus cue in the S-O-R paradigm.

Olfaction Research

The dimensions identified in environmental psychology literature as explaining the impact of an environment on people are similar to those dimensions found regarding re-

sponses to olfactory cues. In particular, most researchers have differentiated among scents along three different, albeit not necessarily independent, dimensions. These include the affective quality of the scent (e.g., how pleasant it is), its arousing nature (e.g., how likely it is to evoke physiological response), and its intensity (e.g., how strong it is). The affective dimension of scent dominates scent perception in existing research (Engen 1982, p. 172; Moskowitz 1979; Schiffman 1979; Woskow 1968). That scents are processed in the limbic system of the brain, which is the center of emotions, explains this dominance (Leukel 1976; Restak 1984). The pleasantness or unpleasantness of scents has been found to produce approach/avoidance behaviors (Levin and McBurney 1986; Takagi 1989), which makes scents particularly appropriate for study in environmental settings.

The arousing dimension of scent is evidenced by the effect of odors on both EEG (electroencephalograph) and respiratory patterns, which indicates that scents can affect arousal levels (Lorig and Schwartz 1988; Schwartz et al. 1986a, b). Scent could therefore contribute to how arousing an environment is, though no known research has investigated the arousing nature of scent independent of its affective quality.

The intensity dimension of scent relates negatively to scent evaluations such that as scent becomes stronger in intensity, reactions to it become more negative (Doty et al. 1978; Henion 1971; Richardson and Zucco 1989). This dimension of scent research examines the relationship between scent intensity and affect for all scents *on average*, but we believe that there is ample theoretical and empirical support with regard to other stimuli (e.g., environmental color and music) to suggest that the relationship between scent intensity and affective reactions depend on how pleasant the scent is. In particular, optimal arousal theory suggests that each stimulus characteristic has an optimal level that is most preferred (Berlyne 1971; McClelland et al. 1953). For more pleasant scents, we expect that the optimal level of intensity is higher than for less pleasant scents. Thus, the finding that intensity is negatively related to affect may apply to scents of average initial pleasantness. Alternatively, for more pleasant scents, increases in intensity may produce an initial increase in liking up to the optimal level of intensity. Increases in intensity beyond this optimal level may then reduce liking. The relationship between intensity and liking may therefore be negative for neutral scents and follow an inverted U-shaped function for pleasant scents. The inverted U-shaped function has been commonly found in work on relationships between characteristics of stimuli and liking, and is referred to as a *Wundt curve* (for this common stimulus-intensity-affect relationship, see, e.g., Anand and Holbrook 1986; Berlyne 1971, 1974; Takagi 1989; Wundt 1874). These predictions, however, have not yet been tested for scents.

In addition to research on the different dimensions of scent, research exists on its effects (for reviews in marketing of olfaction literature, see Bone and Ellen 1994; Gulas and Bloch 1995). Most of this research has focused primarily on responses to nonambient scent, that is, scent that is localized, such as in a vial or on a card (Cain 1982; Gilbert and

Wysocki 1987), a person (e.g., Baron 1983), a product (e.g., Bone and Jantrania 1992; Laird 1932), or an advertisement (e.g., Ellen and Bone 1993). Findings suggest that evaluations of people and products are enhanced when they are scented. Such effects appear to be moderated for both advertisements and products by the congruency of the scent with the object (Bone and Jantrania 1992; Ellen and Bone 1993). For example, congruency has been manipulated by pairing advertisements for sunscreen or household cleanser with coconut or lemon scent, respectively. Congruent scents tend to improve evaluations more than incongruent scents (Bone and Jantrania 1992).

Research on ambient scent, as opposed to scent attached to a particular object, is less common (Bone and Ellen 1994; Gulas and Bloch 1995). In psychology, the presence of an ambient scent in a laboratory was found to improve evaluations of people viewed in photographs (Kirk-Smith and Booth 1987). Pleasant ambient scents have resulted in setting higher negotiation goals and making more concessions than in unscented conditions (Baron 1990). Ambient scent also affects interpersonal interactions in many complex ways (Rotton et al. 1978). Mixed results have been found regarding the effects of ambient scent on mood (e.g., Baron 1990; Cann and Ross 1989; Ehrlichman and Bastone 1992b; Ehrlichman and Halpern 1988; Knasko 1992; Ludvigson and Rottman 1989), cognitive processes (e.g., Knasko, Gilbert, and Sabini 1990; Lawless 1991; Ludvigson and Rottman 1989), and creativity (e.g., Ehrlichman and Bastone 1992b; Knasko 1992).

Although we know of no studies on the effect of ambient scent in marketing environments, two studies have examined the effect of the ambient scent of the study location on product choice. In the first study, a catalog shopping task was conducted in scented and unscented rooms, and it was found that subjects spent more time on the task in the presence of an ambient scent (Bone and Ellen 1994). In the second study, a computer-aided product-choice experiment was conducted in differently scented rooms (not designed to appear like stores), and congruency of the scent with the product category influenced various information-processing measures (Mitchell, Kahn, and Knasko 1995). Both of these studies further encourage the examination of ambient scent in a store environment.

Hypotheses

We investigate whether the presence of an inoffensive ambient scent versus no scent affects evaluations of and approach/avoidance behaviors in a retail environment. Our secondary goal is to explore whether this impact varies according to the affective nature and intensity of the ambient scent. In referring to inoffensive scents, we mean scents that are not considered unpleasant by most people, though some people do not prefer scents enjoyed by a majority of others. In general, inoffensive scents (e.g., certain floral scents) generate either positive or neutral affective responses as opposed to the negative affective responses associated with offensive scents (e.g., sulfur gas or overripe vegetables). Thus, for the purposes of this research, inoffensive scents are either pleasant or neutral.

The weight of evidence from literature on olfaction suggests that the presence of a scent, as opposed to no scent, tends to enhance evaluations. This is in part due to the arousing nature of scent; the presence of ambient scent in a store should increase the arousing nature, or load, of the environment, thereby increasing how interesting and pleasing it is. We therefore expect that scent improves evaluations of the store environment. Furthermore, we expect that these positive reactions to the store environment extend to the merchandise. Research has shown that emotional responses to the overall environment may transfer to objects in the environment (i.e., products; Bitner 1992; Maslow and Mintz 1956; Obermiller and Bitner 1984). For example, Obermiller and Bitner (1984) find a direct relationship between the pleasantness of the environment and evaluations of products in the environment. Similarly, Crowley (1993) finds that varying the color of the environment affects ratings of merchandise style.

Assuming an ambient scent is not unpleasant, we expect its presence also to produce approach behaviors regarding the environment and merchandise contained therein. From a theoretical standpoint, optimal arousal theory suggests that minor changes in an environment, such as adding a low level of a scent, increases the environment's perceived novelty and pleasingness (Berlyne 1971; McClelland et al. 1953), thereby creating superior evaluations, which should encourage approach behaviors. This theoretical relationship was postulated by Gulas and Bloch (1995) and is consistent with previous findings concerning other arousing stimuli, such as color, which can increase intentions to visit a store (Crowley 1993). Similarly, music intensity and pace have been shown to change time perceptions (e.g., Kellaris and Altsech 1992) and the amount of time shoppers spend in a retail environment (e.g., Milliman 1982; Yalch and Spangenberg 1988). We therefore hypothesize that an inoffensive ambient scent has positive effects on evaluations of the environment, store merchandise in general, specific products, and approach behaviors.

H₁: The presence of an inoffensive ambient scent produces evaluations of the (a) store, (b) store environment, (c) merchandise in general, and (d) specific products that are more positive than those produced with no ambient scent present

H₂: The presence of an inoffensive ambient scent, compared to no ambient scent, increases approach behaviors, including (a) intentions to visit the store, (b) purchase intentions for specific products, (c) actual and perceived time spent in the environment, and (d) products examined in the store.

Furthermore, we propose that the affective nature and intensity of the ambient scent influences the effect of the ambient scent on our dependent measures. Although our main interest is the scent/no-scent test of H₁ and H₂, the literature reviewed suggests the possibility of interaction effects between the affective quality and intensity of scents. With respect to the affective quality of scents, we examine relatively neutral and positively evaluated scents. We do not examine aversive scents, because a retailer is unlikely to purposely introduce an aversive scent into the store environment. Whether the scent is neutral or positive, we continue to expect that its presence enhances evaluations of the

environment and approach behaviors. Furthermore, on the basis of optimal arousal theory, we expect that the optimal or preferred intensity of a scent is lower for neutral than for pleasant scents (Berlyne 1971; McClelland et al. 1953). We also expect that as intensity increases beyond this optimal point, evaluations decrease. Because previous research has shown that evaluations of scents, on average, worsen as intensity increases (cf. Doty et al. 1978; Henion 1971; Richardson and Zucco 1989), we predict that at low intensities, neutral scents, which represent the average scent, have the most positive effect on store evaluations and in-store behavior. Therefore, we expect that evaluations of neutral (or average) scents are greatest at their lowest intensities, because these low intensities represent the optimal level. As intensity increases, arousal increases beyond what is optimal and evaluations become less positive. Thus, we expect the most positive evaluations for low intensities and the least positive evaluations for high intensities of these neutral or average scents, which results in a negative relationship between scent intensity and responses to the store for neutral scents. If positive evaluations of a scent diminish, then evaluations of the environment and approach behaviors may also do so.

Correspondingly, we expect that optimal intensity is higher for pleasant scents than for neutral scents. In other words, as intensity of a pleasant scent diffused into the environment increases toward an optimal point, evaluations of and approach behaviors in the environment tend to increase (Berlyne 1971). Once the intensity passes the optimal level, we expect to see a decrease in store evaluations and approach behaviors. For pleasant scents, this increase followed by a decrease results in an inverted U-shaped relationship between scent intensity and responses to the store (Anand and Holbrook 1986; Wundt 1874). This is consistent with previous research suggesting that even pleasant scents can be aversive at high levels of intensity (Gulas and Bloch 1995; Takagı 1989). And, as with H₁ and H₂, we expect these interactions to hold for merchandise and approach behaviors. Therefore, we hypothesize,

H₃: Scent intensity interacts with scent affect such that (a) low intensities of affectively neutral scents produce evaluations that are more positive than those produced with either moderate or high intensities of these scents and (b) moderate intensities of affectively pleasing scents produce evaluations that are more positive than either low or high intensities of these scents. This interaction effect occurs in evaluations of (1) the store, (2) the store environment, (3) merchandise in general, and (4) specific products.

H₄: Scent intensity interacts with scent affect such that (a) low intensities of affectively neutral scents produce stronger approach behaviors than do either moderate or high intensities of these scents and (b) moderate intensities of more affectively pleasing scents produce stronger approach behaviors than do either low or high intensities of these scents. This interaction effect occurs in the following approach behaviors: (1) intentions to visit the store, (2) purchase intentions for specific products, (3) actual and perceived time spent in the environment, and (4) products examined in the store.

Finally, we examine the effect of scent on mood by using Mehrabian and Russell's (1974) three-factor mood

scale consisting of six 7-point semantic differential items per factor. We do not formulate specific hypotheses concerning effects of ambient scent on mood, because theory has not been sufficiently advanced to enable the prediction of when to expect mood effects from environmental stimuli. Consistent with the mixed results regarding effects on mood in the literature, we find no main or interaction effects regarding scent on mood in our study and therefore do not discuss the construct hereafter.¹

Pretest

Purpose and Measures

Before conducting our main study it was necessary to pretest olfactory stimuli to identify their affective quality. In the pretest we were also interested in whether we could separate the affective dimension of the scent (e.g., good/bad) from its arousing (or activating) dimension (e.g., boring/stimulating). Relevant items from Fisher's environmental quality scale (Fisher 1974), previously used in environmental marketing research (Crowley 1993), were used to examine the dimensionality of scent evaluations and scale, or calibrate, the scents. This scale was also selected because it could be used later in the main study to measure evaluations of the environment as a whole. The items used from Fisher's scale consist of the following 7-point scales: negative/positive, unattractive/attractive, tense/relaxed, uncomfortable/comfortable, bad/good, boring/stimulating, unlive-ly/lively, dull/bright, unmotivating/motivating, and uninteresting/interesting. We also included a 7-point perceived intensity measure (very weak to very strong).

Stimuli, Subjects, and Procedure

To identify scents that managers might consider acceptable, we visited the room freshener sections of local supermarkets, because these fragrances are used by consumers to scent their personal environments. Scents based on flowers, spices, woods, and citrus were observed. Additionally, a review of popular press aromatherapy reference books suggested the use of mints as having therapeutic and/or psychological effects (see, e.g., Rose 1992). All scents used in the study were natural essential oils (plant extracts obtained from flowers, plants, fruits, barks, etc.) purchased from a single supplier. We chose several scents within each of the five scent categories, which resulted in 26 individual scents (see Table 1).

Subjects were a convenience sample of 704 people (62% female) with a mean age of 26.1 years, who were intercepted near entrances to a student union building at a large northwest university. Subjects were randomly assigned in a between-subjects design to one of 26 different scent conditions; cell sizes ranged from 23 to 31 subjects. Subjects read and signed an informed consent form screening for allergies. They were then handed a vial containing the olfactory stimulus and a single-page survey containing the dependent measures (Fisher's [1974] 10 semantic differential items and

the perceived intensity measure) and general classification measures (i.e., age and gender). Subjects were invited to sniff the scent as often as they liked while completing the survey; most subjects sniffed the stimulus several times. Stimuli were presented in vials rather than as ambient environmental scents because this is the way retailers would initially choose a scent for use in their stores. Eleven drops of each oil were placed on a cotton ball in a tightly capped vial, labeled by scent number only and with no verbal descriptors. The vial was opaque to reduce the influence of color on judgments (Zellner and Kautz 1990).

Results and Discussion

Principal components factor analysis with an orthogonal rotation was conducted to determine whether one general affective dimension or separate affective and activation dimensions explained subjects' responses and to calibrate the scents on the resulting dimensions. Using the criterion of eigenvalues greater than one, two distinct factors emerged mirroring those of Crowley (1993), who identified the dimensions of affect and activation in evaluations of the color of retail environments. Items loading on Factor 1 were more affective in nature, including positive (factor loading = .81), attractive (.77), relaxed (.81), comfortable (.85), and good (.67). Items loading on Factor 2 were more activating in nature including stimulating (.78), lively (.79), bright (.74), motivating (.71), and interesting (.78). Table 1 shows factor scores of each test scent on the two dimensions.

The affective dimension captured most of the variance (52.5%), whereas the activation dimension explained considerably less (14.5%). To determine whether we could manipulate these two dimensions separately, we subsequently used an oblique rotation to assess the extent of their relationship and found a correlation of $r = .49$. This correlation suggests that it is difficult to manipulate the two factors independently (i.e., find scents eliciting high affective reactions yet low activation responses or vice versa). Although research in psychology suggests the existence of both affective and activation dimensions for scents, we know of no research that has explicitly demonstrated their independence.

Perceived intensity was not included in the factor analysis so that it could be used independently to control for intensity when choosing scents for the subsequent experiment. All scents were perceived as strong with 25 of the 26 scents having means between 5.0 to 6.3. This extreme perceived intensity is likely a function of smelling oils out of vials.

Effects of Ambient Scent in a Retail Environment

To test our hypotheses concerning the use of scent in a retail environment, we conducted a 2 (scent affect: neutral versus pleasing) $\times$ 3 (scent intensity: low, medium, high) between-subjects study with a control (no scent) condition.

Stimuli and Measures

Several factors entered into our choice of affectively neutral and pleasing scents for the main study. All of our pretest scents were judged inoffensive. We initially screened scents

¹Tables of means of individual measures with respect to mood are available from the authors on request.

TABLE 1
Pretest: Olfactory Stimuli and Factor Scores^a

Scent Category	Individual Scent Tested	Number of Subjects	Affective Dimension Score ^b	Activation Dimension Score ^c
Florals:	Lavender ^d	30	-.26	-.09
	Ylang ylang	30	-.31	-.92
	Blue chamomile	26	-.78	.07
	Geranium	25	-.29	.06
Spices:	Cinnamon leaf	27	.17	.03
	Nutmeg	27	-.53	-.15
	Clove buds	26	.53	-.38
	Sage	27	-.32	.00
	Cardamom	25	-.30	.14
	Rosemary	29	-.17	.08
	Marjoram	31	-.33	.21
	Ginger ^d	30	-.62	-.31
Woods:	Juniper berry	26	-.36	.15
	Spruce	29	.16	.04
	Sandalwood	27	.25	-.61
	Cedarwood	27	-.07	-.37
	Birch	26	.66	.24
	Rosewood	23	.29	.16
	Pine	30	-.72	-.27
Citrus:	Lemon	26	1.11	.54
	Tunisian neroli	26	.31	-.15
	Bergamot	23	.17	.70
	Orange ^e	30	.37	.60
Mints:	Peppermint	24	.75	.10
	Pennyroyal	24	-.07	.14
	Spearmint ^e	30	.49	.35

^aFactor scores are for each scent from principle components factor analysis implementing orthogonal rotation in SPSSPC+.

^bScale items representing affect: positive attractive, relaxed, comfortable, and good.

^cScale items representing activation: stimulating, lively, bright, motivating, and interesting.

^dScents used in the main study. d = affectively neutral.

^eScents used in the main study. e = affectively pleasing.

according to pretest factor-score quartile and considered only scents in the same respective quartile on both the affect and activation dimensions. We chose two scents to represent each of the two affect conditions (neutral and pleasing) to alleviate idiosyncratic results due to the nature of either a particular scent or scent group. We also collapsed analyses across the two scents in each condition. This approach is common in studies on the effect of a stimulus on evaluations (e.g., Berlyne 1971, 1974; Moreland and Zajonc 1976, 1977). (Note that no statistically significant differences on dependent measures were found between scents within either affect group.) We also chose scents from four different scent groups to ensure that any effects found could not be attributed to a specific within-scent-group effect (e.g., we did not want to use two spices or two florals). Chosen scents were also approximately equal in perceived intensity, with ratings from the pretest ranging from 5.6 to 6.1 (a range of less than one-half of a standard deviation; Duncan multiple range tests indicated no significant differences in perceived strength between scents). We also selected scents that were judged to be neutral with regard to congruency or incongruity with the products we used in the simulated store environment or with products associated with store maintenance.

For example, though dimension scores suggest lemon or pine could have been used in the study, these scents are often associated with cleaning products (e.g., Bone and Jantrania 1992) and were therefore eliminated to avoid potential association with store (or laboratory) upkeep. Finally, we wanted to use scents that retailers realistically would use; Blue Chamomile, for example, was not chosen, because it is an expensive and unlikely candidate for large-scale commercial applications. Thus, the scents chosen for use in the study were lavender and ginger in the affectively neutral conditions and spearmint and orange in the affectively pleasing conditions.

In a separate pilot test conducted in the experimental room subsequently used for the main study, subjective scent intensity was further refined by testing perceived intensity after operating a scent diffuser for 15, 30, 45, 60, 75, 90, and 120 seconds (9-point scale of "The smell in the room is weak/strong"). For the low, moderate, and high intensity conditions in the main study, selected diffusion times were 15, 30, and 90 seconds, respectively. The diffuser was run in the experimental store environment for the specified time period at the beginning of the day and every 40 minutes (after every two subjects) thereafter. Only one scent per day

was diffused to avoid mixing odors, and the lab was fully ventilated overnight with a large exhaust fan to remove any lingering trace of the scent. Before beginning the study each morning, the room was "sniff-tested" by at least three experimenters; no odors were detected to have remained in the room or adhered to products. During the 20-week study, all scent conditions were counterbalanced across days of the week.

Subjects and Procedure

Subjects were 308 students recruited from undergraduate business classes at a large northwest university and were randomly assigned to one of thirteen conditions (twelve scented conditions and the unscented or control condition).² The twelve scented conditions consisted of one of the two affectively neutral scents diffused at either low, moderate, or high intensity or one of the two affectively pleasing scents diffused at either low, moderate, or high intensity. Subjects completed an informed consent form that contained allergy screening questions within a larger pool of questions. Scent was not mentioned at any point in the procedure to eliminate that potential demand effect. Of the total sample, 10 subjects were dropped from the analyses, because they mentioned scent at some point during the experiment and/or in response to the hypothesis-guessing question asked at the end of the experimental session (these subjects came from 10 different conditions). The final sample was 298 subjects (46% female).³

Subjects participated in the experimental procedure one at a time in a simulated store environment constructed in a consumer behavior laboratory. The simulated store environment was created in a room (16 × 20 feet), with the theme of "one-stop shopping" for students. The product categories represented included kitchen items, decor items (e.g., non-floral plants, fans, calendars, framed posters), clothing with the university insignia, books, school supplies, and outdoor athletic gear. Because none of these items emitted any detectable scents they could not be construed as being either congruent or incongruent with the chosen scents (e.g., few students are likely to associate products such as school supplies, tennis shoes, and framed posters with a particular scent). Furthermore, the scents we chose (lavender, ginger, spearmint, and orange) were particularly unrelated to any of the themes that might be construed as inherent in the products used (e.g., calendars including forest and other wilderness scenes). All laboratory assistants were instructed to

wear no perfume or cologne while administering the study to prevent introducing additional scents.

Subjects waited in a room that was remote from the simulated store so that no scent would reach them until they entered the laboratory store. In the waiting room, subjects were told,

This study is being conducted by a group of research students for a retail business that is considering locating near campus in the old Burger King building. The business would offer "one-stop shopping" for students, offering such products as items for dorm rooms/apartments, school supplies, etc. We are gathering input from students about this retail concept and have set up a simulated store so that you can see what the business will be like. Keep in mind that this is just a sampling of the products that the store will carry, to give you some idea of what the store will offer. You will be asked to rate the "store" and several products within the store.

Subjects were then handed a clipboard with the dependent measures (see Tables 2, 3, and 4) and taken into the simulated store, where they were invited to explore the store alone and at their own pace while completing the questionnaire. A laboratory assistant behind a one-way mirror recorded the time subjects entered and left the simulated store, the number of items subjects examined, and whether subjects made a scent-related comment at any point during the experimental procedure. On exiting the simulated store, subjects were asked to estimate how much time they had spent in the store, without looking at their watch. They were also asked to list any thoughts they had about the purpose of the experiment.

Dependent Measures

Evaluations of the store. Three 7-point scales were used to assess impressions of the store overall: bad/good, unfavorable/favorable, and negative/positive. A fourth 7-point scale (outdated/modern) was included to measure evaluations of the store's image (cf. Bellizzi, Crowley, and Hasty 1983). We also used a two-part liking scale in which subjects were asked if they liked (coded as +1) or disliked (coded as -1) the store and were then asked, "How strongly do you like or dislike this store?" with a rating scale from 1 (not strongly) to 7 (strongly). The combination of these two measures produced a 14-point like/dislike scale ranging from -7 to +7.

Evaluations of the store environment. Fisher's (1974) 13-item environmental quality scale was included to obtain evaluations of the environment (see Table 2 for endpoints of 7-point items). To these scales, a 7-point unpleasant/pleasant scale was added.

Evaluations of the merchandise. The following 7-point semantic differential scales from Bellizzi, Crowley, and Hasty's (1983) work were used to assess perceptions of the merchandise: merchandise style (outdated/up-to-date), merchandise selection (inadequate/adequate), merchandise prices (low/high), and merchandise quality (low/high).

Evaluations of specific products. Subjects were required to evaluate three individual products, including a gray Jansport backpack (\$27.95), a Sierra Club calendar (\$9.95), and

²The use of students as subjects is of concern when they may not have the knowledge, experience, or educational background representative of the general population, and these differences affect responses on dependent measures. For the effect of scent on evaluations, however, there is no evidence from the literature that these characteristics or age (except for the elderly) affect the perception of scent or its effects on evaluative processes or approach behaviors. Thus, it is appropriate to use student subjects in this study.

³Tests for gender differences throughout our study showed no differences. Prior olfaction research has produced mixed results regarding variables, such as gender and the effects of smoking, indicating that these effects may be small and/or situational (Cain, Cometto-Muniz, and de Wijk 1992).

a third product of their own choosing. Subjects rated these products on the following 7-point scales: bad/good, unpleasant/pleasant, unfavorable/favorable, low quality/high quality, unattractive/attractive, and poor value/good value.

Intentions to visit the store. Intentions to visit the store were measured by asking, "Assuming you were going to purchase this type of merchandise and had the money, how likely would you be to visit this store?" (unlikely/likely; 7-point scale).

Purchase intentions for specific products. Subjects were asked, "If you were going to purchase (a backpack/a calendar/this type of product) in this price range, how likely would you be to purchase this particular (product)?" (very unlikely/very likely; 7-point scale).

Actual versus perceived time spent. Actual time spent in the simulated store environment (in seconds) was measured by a lab assistant. Perceived time spent in the environment was measured by asking subjects, "About how much time do you think you spent in the simulated store (just give us your best guess without looking at your watch)?"

Number of products examined. Before each subject entered the lab, all price tags were turned "price down." A lab

assistant behind a two-way mirror counted the number of price tags (attached by string) the subject examined within each product class.

Analyses and Results

We compared scent with no-scent conditions in our tests of H_1 and H_2 , both of which expected increased evaluations and approach behaviors in scented environments. Results are reported as MANOVA overall F-tests (to control for Type I error) for each subcategory of dependent measures, followed by planned univariate comparisons for the individual measures. The hypothesized interactions between scent affect and intensity on evaluations and approach behaviors (H_3 and H_4) were examined in a 2 (scent affect: neutral versus pleasing) $\times$ 3 (scent intensity: low, moderate, high) MANOVA.

H₁: Impact of scent versus no scent on evaluations. Following a procedure recommended by Cohen and Cohen (1983, pp. 172–76), we conducted a MANOVA overall F-test of each of the subgroups of measures relevant to H_1 (included in Tables 2 and 3), followed by univariate tests of individual measures. The multivariate tests were significant: $F(6,291) = 5.51, p < .001$ for the 6 store variables;

TABLE 2
Mean Evaluative Reactions in the Presence Versus Absence of Ambient Scent

Evaluations	No Scent	Scent	F-Value ^a	p =
Store ^b	Mean	Mean		
Bad/good	4.49	5.11	13.91	.001
Unfavorable/favorable	4.27	5.10	22.84	.001
Negative/positive	4.65	5.24	10.10	.002
Dislike/like (2-point)	.10	.57	12.68	.001
Dislike/like (14-point)	.39	2.81	15.87	.001
Image: outdated/modern	3.76	4.72	19.05	.001
Store Environment ^c				
Unattractive/attractive	4.12	4.98	17.51	.001
Tense/relaxed	5.10	5.38	1.41	.123
Uncomfortable/comfortable	4.84	5.17	2.74	.099
Depressing/cheerful	4.35	4.90	11.57	.001
Closed/open	4.04	4.99	19.22	.001
Drab/colorful	3.63	4.72	25.53	.001
Negative/positive	4.47	5.11	12.04	.001
Boring/stimulating	3.75	4.40	8.79	.003
Bad/good	4.22	5.05	19.78	.001
Unlively/lively	3.73	4.35	8.02	.005
Dull/bright	4.00	4.58	7.36	.007
Unmotivating/motivating	3.84	4.40	6.67	.010
Uninteresting/interesting	4.03	4.87	13.72	.001
Unpleasant/pleasant	4.47	5.16	13.40	.001
Merchandise ^d				
Style: outdated/up to date	4.71	5.43	11.01	.001
Selection: inadequate/adequate	3.80	4.65	10.76	.001
Quality: low/high	4.81	5.48	12.50	.001
Prices: low/high	5.20	4.93	2.48	.116

^aUnivariate F-tests associated with (1,296) d.f.

^bMANOVA overall test of significance for 6 store evaluations.

$F(6,291) = 5.51, p < .0001$.

^cMANOVA overall test of significance for 14 store environment evaluations.

$F(14,283) = 3.50, p < .0001$

^dMANOVA overall test of significance for 4 merchandise evaluations

$F(4,293) = 4.72, p < .001$

TABLE 3
Mean Evaluations of Specific Products in the Presence Versus Absence of Ambient Scent

Products ^a	No Scent	Scent	F-Value ^b	p =
Backpack	Mean	Mean		
Bad/good	4.33	4.80	3.95	.048
Unpleasant/pleasant	3.96	4.40	3.52	.061
Unfavorable/favorable	3.59	4.24	6.48	.011
Low quality/high quality	4.73	5.23	5.58	.019
Unattractive/attractive	3.00	3.71	5.72	.017
Poor value/good value	4.18	4.62	4.28	.040
Calendar				
Bad/good	5.65	5.70	.06	.806
Unpleasant/pleasant	5.77	6.02	2.36	.126
Unfavorable/favorable	5.45	5.76	2.38	.124
Low quality/high quality	5.28	5.77	7.42	.007
Unattractive/attractive	5.45	6.00	7.29	.007
Poor value/good value	4.90	5.23	1.99	.159
Self-Selected Product				
Bad/good	5.47	5.74	1.49	.223
Unpleasant/pleasant	5.35	5.78	4.21	.041
Unfavorable/favorable	5.57	5.80	1.06	.303
Low quality/high quality	5.14	5.68	6.40	.012
Unattractive/attractive	5.41	5.71	1.60	.207
Poor value/good value	5.10	4.78	1.35	.246

^aMANOVA overall test of significance for 18 product-specific evaluations.

F(18,279) = 2.34, $p < .002$.

^bUnivariate F-tests associated with (1,296) d.f

$F(14,283) = 3.5$, $p < .001$ for the 14 store environment variables; $F(4,293) = 4.72$, $p < .001$ for the 4 merchandise variables; and $F(18,279) = 2.34$, $p < .002$ for the 18 product-specific variables (three products; six measures each). Thus, the MANOVA overall F-tests alleviated concern regarding Type I error for H_1 , which enabled us to proceed with the univariate comparisons.

In Table 2, we show results for univariate comparisons. Evaluations of the store overall and of the store environment in particular were more positive when the store was scented than when it was not scented, thus providing strong support for H_{1a} and H_{1b} . Specifically, in the scented conditions, the store was perceived as more favorable, good, positive, liked, and modern ($p < .002$). The store environment was rated more positively in the scented conditions on all variables ($p < .01$), with the exception of comfortable/uncomfortable ($p < .10$) and tense/relaxed ($p = .12$).

Similarly, evaluations of the merchandise in general in the scented environment were more positive (i.e., more up-to-date, better selection of, and higher-quality merchandise) than in the unscented environment, thus providing strong support for H_{1c} . This difference was large and statistically significant ($p < .01$) with one exception: Merchandise prices were viewed as lower in the scented than in the unscented store (directionally consistent with our hypothesis), but statistical significance was not evident ($p = .12$).

Although the MANOVA overall F-test for the 18 product-specific measures (see Table 3) is significant, univariate comparisons show mixed support for H_{1d} . In particular, all evaluations of the backpack were significantly more positive in the scented environment. However, there were fewer

significant differences for either the calendar or the self-selected product measures. Quality ratings were also more favorable ($p < .02$) in the scented conditions for all three products. Although our data do not specifically address the issue, impact of scent on specific product evaluations may have been moderated by attitude toward the product. As shown in Table 3, mean evaluations of the backpack are lower across the board than evaluations of the calendar or self-selected product. This suggests that ambient scent may improve evaluations of less pleasing products but may not significantly improve evaluations of products that already are evaluated positively. Alternatively, it is possible that these results stem from a restriction-of-range problem, because evaluations of the calendar and the self-selected product are relatively high in the unscented condition. Still, a restriction-of-range problem may reflect accurately how difficult (and perhaps unnecessary) it is to improve evaluations of well-liked products. This explanation is consistent with considerable evidence in psychology that affective state can influence responses to ambiguous or neutral stimuli but not to stimuli that are clearly positive or negative (cf. Ehrlichman and Bastone 1992a; Isen and Shaker 1982).

H₂: Impact of scent versus no scent on approach/avoidance. The MANOVA overall F-test for all approach/avoidance measures in Table 4 was statistically significant ($F(12,285) = 3.13$, $p < .001$). A univariate test found that subjects expressed a stronger intent to visit the store in the scented condition, thus providing support for H_{2a} ($p = .003$).

Results regarding purchase intentions for specific products are similar to evaluation results in tests of H_1 . Specific

TABLE 4
Mean Approach/Avoidance Reactions in the Presence Versus Absence of Ambient Scent

Approach/Avoidance ^a	No Scent	Scent	F-Value ^b	p =
	Mean	Mean		
Intent to Visit Store	4.20	4.94	8.99	.003
Purchase Intentions (very unlikely/very likely)				
Backpack	2.29	2.97	5.84	.016
Calendar	4.40	4.42	.06	.936
Self-Selected Product	5.08	4.77	1.12	.291
Time Spent (in seconds)				
Actual Time	585.61	577.71	.11	.735
Perceived Time	660.82	576.01	5.38	.021
Difference ^c	-75.22	1.70	6.16	.014
Number of Product Tags Examined				
Outdoor	2.14	2.72	4.08	.044
Decor	1.65	2.02	2.91	.089
University	2.71	2.73	.00	.955
Kitchen	1.43	1.51	.10	.746
Books	.20	.14	.64	.425
School Supplies	2.24	2.28	.02	.897
Total ^c	10.35	11.39	1.03	.312

^aMANOVA over-all test of significance for 12 approach/avoidance items.

F(12,285) = 3.13, $p < .001$.

^bUnivariate F-tests associated with (1,296) d.f.

^cApproach/avoidance MANOVA over-all tests were conducted without these two variables because they are linearly dependent on other variables (i.e., time spent and number of specific tags, respectively).

cally, there is a statistically significant difference between purchase intentions for the backpack in the scented and unscented store, but not for the calendar or the self-selected product, thus providing mixed support for H_{2b}. Again, this product-specific effect may result from initial overall purchase intentions being lower for the backpack than the other two products. This finding is not likely to result from a restriction of range, because purchase-intention means are closer to the midpoint of the scales. It is possible that ambient scent does not significantly increase purchase intentions for products to which consumers are already favorably disposed.

For time spent in the store (H_{2c}), subjects did not remain in the scented store longer than in the unscented store. Subjects in the scented store, however, perceived spending less time shopping than subjects in the unscented store ($p = .02$). The difference between actual and perceived time was also statistically significant ($p = .01$). Thus, though actual time spent did not vary, perceived time seemed to pass more slowly in the unscented environment, thus providing mixed support for H_{2c}.

With respect to product examination (H_{2d}), subjects in the scented store examined more outdoor products ($p < .04$) and decor items ($p < .10$) than subjects in the unscented store. For three of the four remaining product classes (kitchen items, university clothing, and school supplies) and for the total number of products examined, the means are not statistically significant. Thus, H_{2d} received limited support. Overall, our tests of H₂ indicate that the presence of ambient scent does increase some types of approach behaviors.

H₃: Interaction of scent affect and intensity on evaluations. H₃ proposes an interaction effect of scent affect (neutral versus pleasing) with intensity (low, moderate, high) on the dependent variables used to test H₁. MANOVA overall F-tests of each of the subgroups of measures were conducted. Results of the multivariate tests of significance were F(12,474) = 1.07, $p = .385$ for the 6 store variables; F(28,458) = .64, $p = .924$ for the 14 store environment variables; F(8,478) = 1.54, $p = .143$ for the 4 merchandise variables; and F(36,450) = 1.02, $p = .444$ for the 18 product-specific variables (three products; six measures each). Recognizing a risk of Type I error, these results did not justify presenting univariate tests across the individual measures. Thus, H₃ was not supported.

H₄: Interaction of scent affect and intensity on approach/avoidance. The MANOVA overall F-test of the interaction between scent affect and intensity regarding all approach/avoidance measures was F(24,462) = 1.09, $p = .353$. This finding, as for H₃, suggests a risk of Type I error. Univariate tests across individual measures are therefore unjustifiable, and H₄ was unsupported by our data.

Conclusions

Our research shows a difference between evaluations of and behaviors in a scented store environment and an unscented store environment. These differences were obtained despite there being no other changes in the environment than scent, notwithstanding that none of the subjects included in our analyses mentioned the presence of a scent. Although the presence or absence of a scent consistently affected evalua-

tions and behaviors, the nature of the scent itself appears to be less important. Scents that are at least neutral were found to produce these enhanced perceptions; the specific scent used did not matter as much as the presence of the scent. Similarly, the intensity of the scent (within a reasonable range so as not to become aversive) did not dramatically affect the results.

Of considerable interest was the finding that subjects in the scented condition perceived that they had spent less time in the store than subjects in the no-scent condition. And, subjects in the no-scent condition perceived having spent significantly more time in the store than they actually did; subjects in the scented condition did not show this discrepancy. Although similar to findings regarding the effects of environmental music (e.g., Kellaris and Altsech 1992; Millman 1982), the current findings also are consistent with the concept of an optimal state of experience that has proven theoretically useful to several disciplines. This optimal state of experience is referred to as a state of *flow* (for a comprehensive review, see Csikszentmihalyi and Csikszentmihalyi 1988) and is associated with the quality of subjective experiences—one of which could be the retail shopping experience. A common feature of flow experiences is a distorted sense of time; the clock no longer serves as a good analog of the temporal quality of experience. This effect on time perception has been demonstrated in several contexts, including academic studying (Carli, Delle Fave, and Massimini 1988), playing chess (Francis 1987), and working at a fulfilling career (Lefevre 1988). Our findings suggest that ambient scent may lead to an enhanced subjective experience for retail shoppers (or an enhanced condition of flow); the time consumers spend examining merchandise, waiting in lines, or waiting for help may be made to seem shorter than it actually is by introducing ambient scent into the environment.

Further Research

An interesting avenue for further research highlighted by our study is the possible interaction between ambient scent and product characteristics on evaluations of and purchase intentions for a product. We found that evaluations and purchase intentions regarding the backpack were significantly more positive in the scented than in the unscented store. We did not find these effects for either the calendar or self-selected product. The two latter products were evaluated positively, whereas the backpack received moderate evaluations. This finding suggests that scenting the environment may have a greater impact on less favorably evaluated products. Still, there may be other dimensions on which these products differ that we did not capture in our measures, such as how involving they are, how utilitarian they are, or how much previous experience the consumer has had with the product class. Any of these factors may also influence the effect of scent on evaluations and should be included in additional research that examines the factors moderating the impact of store scenting on product evaluations and purchase intentions.

Also of interest for further research is a broader range of scents. Our focus was on inoffensive scents. We found little

difference among evaluations of the store when it was scented with affectively pleasing scents versus affectively neutral scents and found no interaction between scent affect and intensity. Although most managers are interested in scenting their environments with such scents, some may be concerned about the impact of offensive scents either in their store (e.g., a pet store) or surrounding their businesses (e.g., located near a paper mill) on their customers' shopping behavior. Significant interactions may have occurred had we used scents that differed more in their affective quality (i.e., our affectively neutral scents were merely relatively lower than the affectively pleasing scents, but were not unreasonable choices for use in a retail setting). In particular, we expect to see increased avoidance behaviors in a setting scented with environmentally unpleasant scents. Further research should be conducted using a broader range of scents and using scents to mask unpleasant odors (for research on offensive scents, see Rotton 1983; Rotton et al. 1978).

The generalizability of this study is limited, because it was conducted in a simulated store. Although research has shown that simulated store environments, including photographic representations of stores (e.g., Belizzi, Crowley, and Hasty 1983; Bitner 1990), provide useful results, further research should take this study closer to realism by conducting research in the field and scenting real stores. Research should also examine the effects of ambient scent in a wider variety of store types. Both of these needs for additional research provide interesting opportunities for collaboration between academics and practitioners.

Managerial Implications

The findings provide guidelines for managers of retail and service outlets concerning the benefits of scenting store environments with affectively neutral or pleasing scents. Certainly, further research will detect subtleties based on specific scents and intensities, but the main message for retailers is apparent: The presence of an inoffensive scent in a store is an inexpensive and effective way to enhance consumer reactions to the store and its merchandise. Within limits, the intensity and nature of the actual scent chosen appear to have little impact on consumer evaluations. Because of the latter finding, managers have a wide array of scents from which to choose. We suggest that in conjunction with choosing a neutral or pleasant, as opposed to unpleasant, scent, managers should consider three additional factors.

First, managers should seek to use distinctive scents. As store scenting becomes more popular, it is important that not all stores smell alike because this could eventually reduce the impact of scent on consumers by creating a sort of control (expected- or normal-scent) condition. Just as managers attempt to create distinctive environments that differ from their competition by using store layout, display, color, and so on, they also should consider scent as a mechanism for differentiating their store environment from others.

Second managers should take precautions in choosing scents that could be construed as either congruent or incongruent with their product offering. Recent research on the use of scents (Mitchell, Kahn, and Knasko 1995) has shown that ambient scents judged to be congruent (e.g., a floral

scent in a flower shop) versus incongruent (e.g., the scent of chocolate in a flower shop) have different effects on information processing and choice. To the extent that a store carries a broad array of products, it is likely that a scent judged to be congruent with one product category carried by the store will be incongruent with several other product categories. Because such a scent could positively affect choice processes for one category while negatively affecting choice processes for others, we encourage managers to choose a scent that cannot be construed as either congruent or incongruent with any single product or category. Thus, managers should be careful not to choose strongly scented products for use in store upkeep (e.g., lemon or pine scented cleaning products).

Third, because of the latitude managers have in choosing scents, we recommend careful attention to cost. Several

commercially available scenting oils are prohibitively expensive. A manager who undertakes store scenting on a regular basis must consider not only the most economical method of diffusing scents (e.g., diffuser or heating and ventilation system), but also the cost of the scents themselves.

In conclusion, our study suggests that scent is a potentially useful method by which a manager can increase positive evaluations of the store's environment and merchandise. Furthermore, the potential exists for using scent to increase intentions to shop at specific stores. Scent is a method by which managers can differentiate their stores. The considerations in choosing a scent are relatively uncomplicated and do not require extensive expertise to assess, which gives managers much freedom in creating uniquely pleasing and profitable store environments.

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NOTE TO AUTHORS

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What to Tell Consumers in Waits of Different Lengths: An Integrative Model of Service Evaluation

The authors conduct an experimental study to examine the impact of two types of waiting information—waiting-duration information and queuing information—on consumers' reactions to waits of different lengths. The authors test a model that includes three different constructs—perceived waiting duration, acceptability of the wait, and affective response to the wait—as mediators between waiting information and service evaluation. Results show that though acceptability of the wait and affective response to the wait have a significant mediating effect on the relationship between waiting information and service evaluation, perceived waiting duration does not. Moreover, neither type of information has significant impact in the short-wait condition, whereas waiting-duration information has greater impact than queuing information in the intermediate-wait condition and a smaller impact in the long-wait condition. The authors conclude with a discussion of research and managerial implications.

Waiting time is a pivotal factor in consumers' evaluation of many services. Ample evidence has shown that waiting has negative effects on service evaluation (Katz, Larson, and Larson 1991; Taylor 1994). To reduce these negative effects, service organizations can either provide faster service by modifying their service delivery system (Shostack 1987) or take actions designed to reduce the negative effects without changing the real waiting duration. Among other strategies, providing *waiting-duration information*, that is, information about the expected length of a wait, or *queuing information*, that is, a consumer's position in the queue with continuous updates, have been used widely to reduce consumer dissatisfaction with waiting (Larson 1987; Maister 1985).

We address three critical issues pertaining to the impact of waiting-duration information and queuing information on consumers' reactions to waiting. The first is the identification of underlying behavioral mechanisms through which the two types of waiting information affect service evaluation. There is some evidence supporting a resource-allocation model (Zakay and Hornik 1991), which postulates that waiting information distracts consumers' attention from the passage of time; hence, they perceive the length of the wait as short. However, existing literature suggests that other ef-

fects, such as uncertainty reduction and cognitive reappraisal, may also explain the impact of the information on service evaluation. According to the uncertainty reduction explanation, information ameliorates affective response by reducing the uncertainty of the wait, and according to the cognitive reappraisal explanation, information facilitates the reinterpretation of the wait as "not too long."

The second is assessing the effectiveness of the two types of waiting information in waits of different lengths. For example, when a delay is short, does it matter if no waiting information is provided? Are the two types of waiting information equally effective in stimulating the various behavioral mechanisms in waits of different lengths? The key question to service marketers is, What waiting information should be given to customers in waits of different lengths?

The third is concerned with constructs that are implied by the three behavioral mechanisms as being key mediators between the two types of waiting information and service evaluation. These constructs include perceived waiting duration (how long consumers believe they have waited), affective response to the wait, and acceptability of the wait. Testing a model that integrates these constructs provides both researchers and service managers with insights regarding the impact of waiting information on service evaluation.

Conceptual Background

We discuss three behavioral mechanisms that explain the positive impact of waiting-duration information and queuing information on service evaluation.

Resource-Allocation Model

From the customer's perspective, one key negative outcome of waiting is time lost. Drawing heavily from time-judgment literature, researchers have employed perceived waiting du-

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ration as the key construct in explaining consumers' reaction to a wait (Chebat, Gelinias-Chebat, and Filiatrault 1993; Hornik 1984). The longer a person believes he or she has waited, the more negatively he or she evaluates the service.

How information can affect perceived waiting duration is described comprehensively in Zakay's (1989) resource-allocation model. According to the model, a *time estimate* is a function of the number of *time units* recorded by a cognitive timer, which is activated when a person pays attention to the passage of time. A given time period is often perceived as longer when a person becomes more conscious of the passage of time. Zakay and Hornik (1991) argue that a person naturally is occupied with the passage of time and actively engages in time estimation during the whole waiting period. They also argue that any stimuli that can distract the person's conscious attention from the passage of time reduces the perceived waiting duration and hence enhances his or her service evaluation (e.g., Chebat, Gelinias-Chebat, and Filiatrault 1993). Similarly, the existence of waiting-duration information or queuing information reduces the need for the person to pay attention to the passage of time him- or herself. The result is a shorter perceived waiting duration and, hence, a service evaluation that is more positive.

Previous findings support the resource-allocation model. When subjects were informed of the expected length of a time period, they reported significantly shorter estimates of the period than subjects without the information (Ahmadi 1984). In a field study, Katz, Larson, and Larson (1991) find that providing customers with information about how long they must wait inside a bank reduces customers' perceived wait estimates.

Uncertainty Reduction

Waiting entails both economic and psychological costs (Osuna 1985). Not only do consumers lose some of their valuable asset—time—they also experience a considerable amount of stress. A key factor behind consumers' stress is the uncertainty of how long they must wait. Any information on waiting duration can reduce the uncertainty of the wait and lower the overall level of stress experienced by consumers (Osuna 1985). Findings from Taylor's (1994) study suggest that uncertainty influences service evaluation through consumers' affective responses to the wait. Accordingly, the consumers' affective response (e.g., being irritated, annoyed, dissatisfied) is posited as a key mediator of the impact of waiting information on service evaluation.

Cognitive Reappraisal

Previous research shows that a sense of control significantly affects human physical and psychological reactions to stressful situations, such as crowding and waiting (Hui and Bateson 1991; Langer 1983). *Personal control* refers to a person's need to demonstrate his or her competence, superiority, and mastery over the environment. Averill (1973) suggests that there are at least three different ways that a person can gain and maintain control over a situation: behavioral control, decisional control, and cognitive control.

Behavioral control is the availability of "a response which may directly influence or modify the objective char-

acteristics of an event" (Averill 1973, p. 293). An example of behavioral control is anything consumers can do to shorten the real length of the wait. *Decisional control* is the extent of "choice in the selection of outcomes or goal" (Averill 1973, p. 289). This refers to whether consumers can choose to remain, leave, or come back later in the hopes that the line will be shorter. In contrast, *cognitive control* does not involve any physical change of or withdrawal from the stressful situation. Cognitive control can be subdivided into two mechanisms: information gain and reappraisal of the stressful situation. Both information gain and reappraisal are cognitive efforts that a person can use to cope with the situation. Information increases the predictability of a situation (Averill 1973). When given any information about the wait, consumers perceive the wait as more predictable and controllable and, as a result, exhibit affective responses to the wait that are more positive than those when no information is provided. This is largely in accordance with the uncertainty reduction explanation previously discussed.

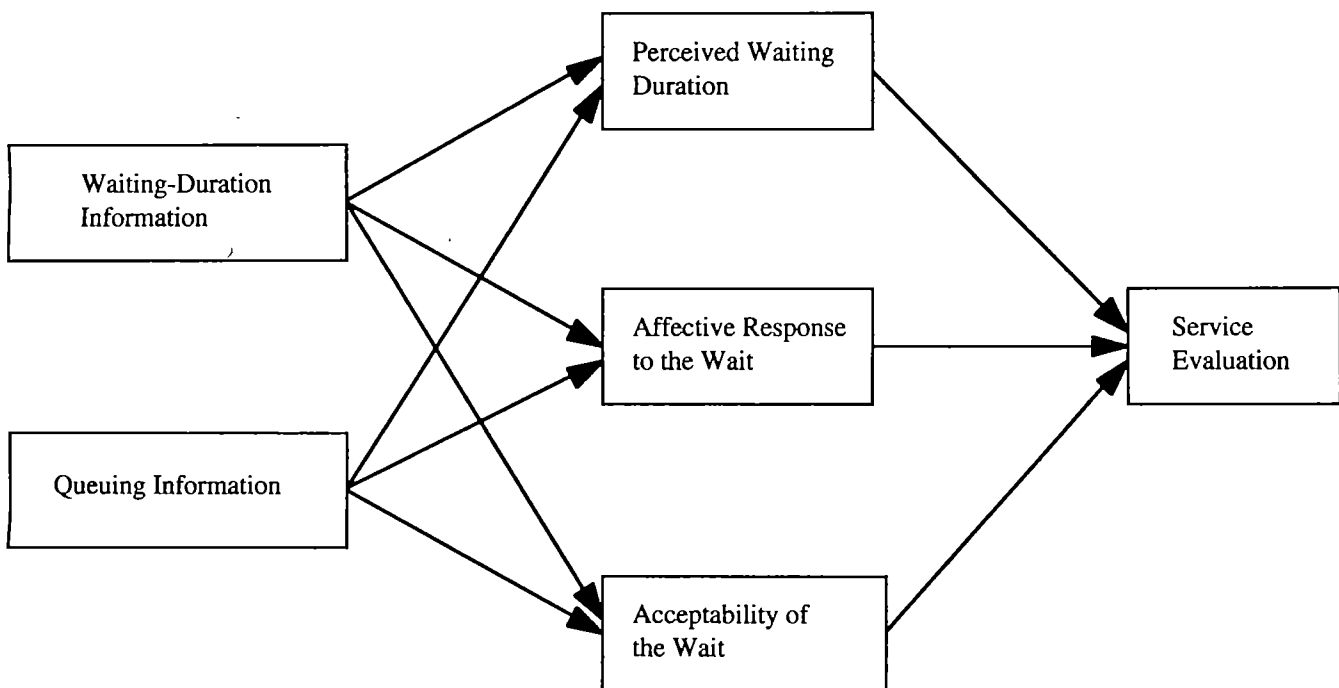
Information also facilitates consumers reinterpretation of the wait, that is, the cognitive-reappraisal effect. According to Folkman (1984), cognitive reappraisal is an effective coping strategy when there is no good physical means to change or escape from the situation. For example, consumers not only reported affective responses that were more positive, but also considered the setting less crowded when they knew in advance that the store might get crowded during their visit (Langer and Saegart 1977). When consumers are *captive to the wait* (i.e., they are not allowed to quit or leave until the service is over), any information regarding it is likely to stimulate cognitive reappraisal and result in consumers perceiving the wait to be more acceptable. This reappraisal effect can be illustrated by the following description from Maister's (1985, p. 118) work: "If a patient in a waiting room is told that the doctor will be delayed thirty minutes, he experiences an initial annoyance but then relaxes into an acceptance of the inevitability of the wait."

In short, the resource allocation explanation focuses on consumers' cognitive activity, namely, the time estimate, during the wait. Such time estimates affect service evaluation. The uncertainty reduction explanation focuses on consumers' affective response to the wait. It conceptualizes how consumers' feelings of annoyance, irritation, and so on color their evaluation of the service. And finally, the cognitive reappraisal explanation centers on consumers' evaluation of the wait as being acceptable or not. Although each of the explanations implies a different mediator, they are not competing explanations, because multiple, not singular, behavioral processes can be stimulated by the two types of waiting information. As shown in Figure 1, each mechanism concentrates on one of the three components—perceived waiting duration, affective response to the wait, and acceptability of the wait—of consumers' evaluative process.

Length of the Wait

The previous discussion suggests that both waiting-duration information and queuing information favorably affect customers' evaluation of the service. The next question is, Are

FIGURE 1
An Integrative Model of Waiting Information and Service Evaluation



the two types of information equally effective in different wait durations?

When the wait is short, with or without either type of information, consumers are likely to experience little stress and consider the wait acceptable. They may not be motivated to search for or process any information regarding the wait (Langer and Saegart 1977). The distraction effect, uncertainty-reduction effect, and cognitive-reappraisal effect are not stimulated by either information type. Thus, all mediating effects due to perceived waiting duration, affective response, and acceptability are nonsignificant. Hence, we hypothesize,

H₁: In the short-wait condition, both waiting-duration information and queuing information do not stimulate significant mediating effects of perceived waiting duration, affective response to the wait, and acceptability of the wait on service evaluation.

When the wait is intermediate, the effects due to both types of information begin to become significant. First, both types of information help distract consumers from conscious awareness of the passage of time and improve service evaluation through effects on perceived waiting duration. Second, the information reduces uncertainty, which suggests a significant mediating effect of affective response to the wait on service evaluation. Third, the information facilitates cognitive coping, and consumers reappraise the wait as being more acceptable and hence give a better service evaluation. We therefore hypothesize,

H₂: In the intermediate-wait condition, both waiting-duration information and queuing information stimulate a significant mediating effect of perceived waiting duration on service evaluation.

H₃: In the intermediate-wait condition, both waiting-duration information and queuing information stimulate a significant mediating effect of affective response to the wait on service evaluation.

H₄: In the intermediate-wait condition, both waiting-duration information and queuing information stimulate a significant mediating effect of acceptability of the wait on service evaluation.

The situation becomes interesting when the wait is long. As far as waiting-duration information is concerned, it is logical to expect that both the distraction effect (perceived waiting duration as the mediator) and the uncertainty-reduction effect (affective response to the wait as the mediator) continue to operate. However, when consumers are told the wait is extremely long (e.g., one hour for a dinner table), the anticipation of substantial time lost may reduce the positive effects of waiting-duration information on their reaction to the wait (Osuna 1985). It is hard for consumers to reinterpret an extended wait as acceptable. This implies that acceptability may not be a significant mediator in service evaluation.

On the other hand, with queuing information, consumers do not have a precise estimate of the waiting duration. The statement, "You are twelfth in line," may raise less concern over time lost than the statement, "You must wait one hour." Queuing information may also direct consumers' attributions of the wait from the service firm by indirectly informing them that there are a large number of concurrent users of the service. Without queuing information, consumers may tend to blame the service firm when they experience a long wait (Bitner 1990). This implies that the cognitive reappraisal effect of queuing information may remain significant

when the wait is long. This discussion can be summarized by the following research hypotheses:

- H₅: In the long-wait condition, both waiting-duration information and queuing information stimulate a significant mediating effect of perceived waiting duration on service evaluation.
- H₆: In the long-wait condition, both waiting-duration information and queuing information stimulate a significant mediating effect of affective response to the wait on service evaluation.
- H₇: In the long-wait condition, queuing information stimulates a significant mediating effect of acceptability of the wait on service evaluation.
- H₈: In the long-wait condition, waiting-duration information does not stimulate a significant mediating effect of acceptability of the wait on service evaluation

An Experimental Study

The study employed a 3 (no-information control, waiting-duration information, and queuing information) $\times$ 3 (short wait, intermediate wait, and long wait) factorial design.

Pilot Study

To determine the lengths of wait to use in the main study, a pilot study was conducted. When subjects in the pilot study were asked to try the service (used in the main study), they rarely objected when the wait was 5 minutes or less. On the other hand, most subjects expressed strong signs of disapproval (e.g., complaints to the experimenter) when the wait was as long as 15 minutes. We therefore decided to use 5 minutes as a short delay and 15 minutes as a long delay. According to the results obtained from the pilot study, the two types of information were not expected to create any significant positive effect on subjects' reactions to a wait of 5 minutes. In contrast, informing subjects that they must wait 15 minutes was expected to raise their stress level, as Osuna (1985) suggests. The midpoint between the short wait and the long wait (i.e., 10 minutes) was selected as the intermediate wait.

Procedure

A total of 135 students (15 in each experimental cell) recruited at a Canadian university participated in the study. The sample was equally distributed between women (68) and men (67). The majority (68.9% or 93) of the subjects were 21 to 24 years of age, and they came from 19 different departments of the university.

The subjects were told that they would be participating in a study testing "a new computerized course registration service that the university was considering to offer in the near future." After reading a page of instructions on how to use this new service, each subject proceeded to register for four different courses for the upcoming semester with this new service. The subject was provided with a standard keyboard and a monochrome monitor that was connected to an IBM-compatible personal computer.

There was an initial screen with a message thanking the subject for his or her participation. Based on the respondent number that the subject then entered, the computer put him or her into one of the nine experimental conditions. The sec-

ond screen marked the beginning of the course-registration process, in which the subject was asked to give his or her personal details, including name, student number, major, and program of study. In the third screen, the subject typed in the code numbers of four different courses that he or she wanted to take. The fourth screen carried a message that "the registration of the courses has been successful," and it also presented a tentative timetable for the semester. The final screen informed the subject that the process was ended and that he or she could leave.

A delay of 5, 10, or 15 minutes was introduced in between the third and the fourth screens, that is, after the subject typed in the course codes and before he or she was told that the course registration process was successful. During the wait, for subjects assigned to the no-information control group, the computer advised the subject that "the computer is checking for course prerequisites and any time conflict." For the remaining subjects, the message continued with the statement, "There will be a delay of about X minutes" (waiting-duration information), or "You are the Yth user in line" (queuing information). For the experimental condition for waiting-duration information, the computer gave X a value exactly equal to the length of the delay imposed (i.e., 5, 10, or 15 minutes). For the condition for queuing information, the initial value of Y was the same as X (e.g., for subjects who had a delay of 5 minutes, they were told initially, "You are the fifth user in line"). The computer also reduced the value of Y by one after every minute of delay. For example, during a 5-minute delay, the computer changed the message to, "You are the fourth (and then third, second, and first) user in line" after 1 (2, 3, and 4) minutes of delay. The update of a consumer's position in the queue is readily available in most real-life situations (e.g., by moving along a queue or the take-a-number-and-wait system).

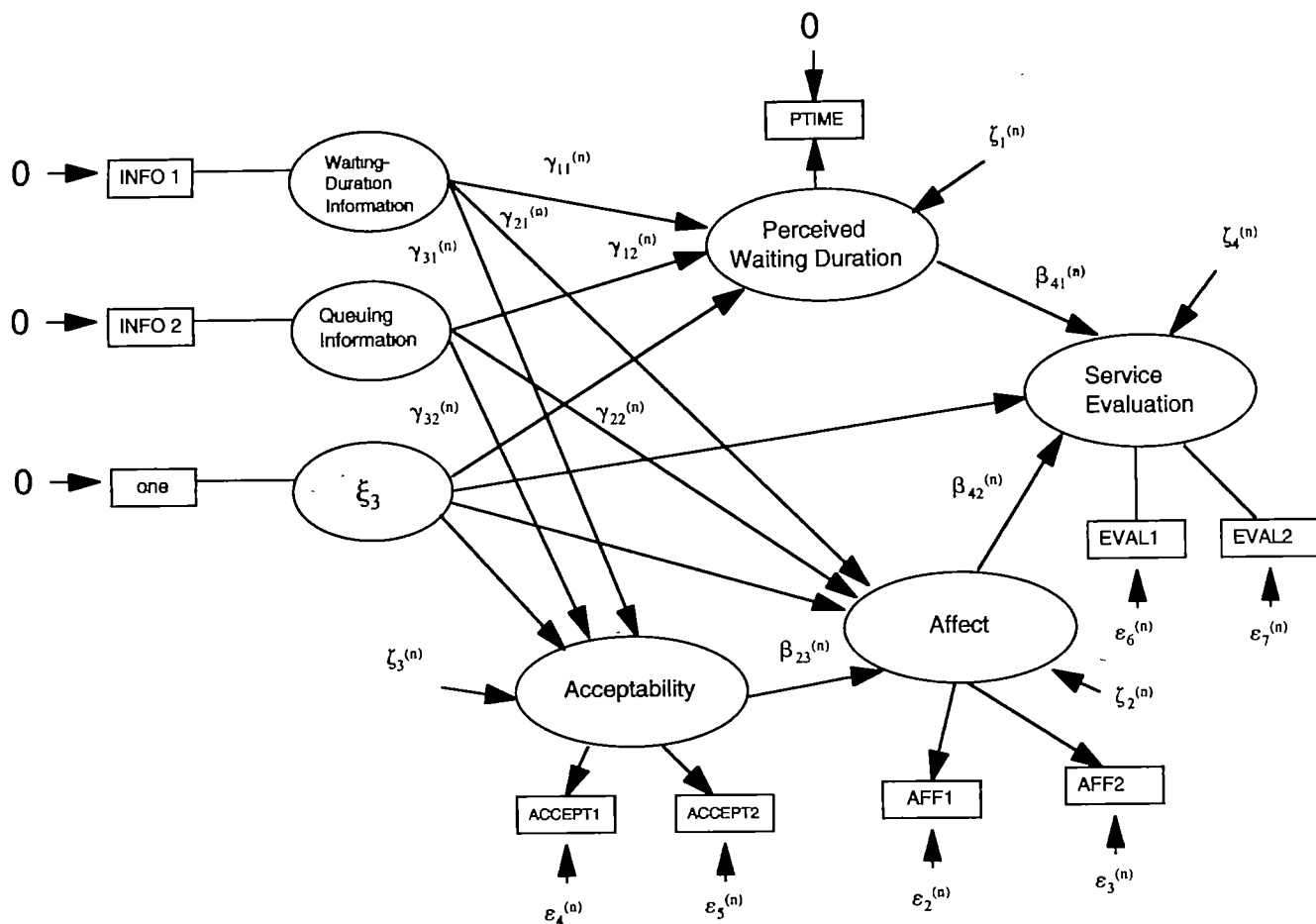
The software was reasonably user-friendly, and none of the subjects had difficulty following the instructions provided by the computer. Once the course registration was completed, the subject filled out a questionnaire that requested "his or her opinions about this new service." Before being dismissed, the subject was debriefed and asked not to mention the study to anybody.

By asking the subjects to interact with a computerized registration system, we were able to avoid the extraneous sources of variation associated with the otherwise high-people content (e.g., the mood of the server) of the service-delivery process (Bateson and Hui 1992). The software also greatly improved the realism of the whole study setting (Lynch 1982). In general, our subjects showed a high level of enthusiasm and involvement in the new computerized course registration service because of its value to them. During debriefing sessions, none of the subjects were able to guess the true objective of the study, and a few of them even asked the experimenter when the new service would become available to students.

Measures

The questionnaire included two different measures of the subjects' evaluation of the new service. The first measure (EVAL1) was a question asking the respondent to express

FIGURE 2
The Structural Equation Model



Short-wait condition: $n = 1$.
Intermediate-wait condition: $n = 2$.
Long-wait condition: $n = 3$.

the extent of his or her preference for this new service on an eight-point scale ranging from "not at all" to "extremely so." The second measure (EVAL2) consisted of two seven-point semantic differential items (unfavorable/favorable and bad/good; $\alpha = .95$) that are commonly used to measure the subjects' attitudes toward the new service (Ajzen and Fishbein 1980).

Two measures were concerned with the subjects' affective response to the wait. The first measure (AFF1) required the respondent to use an eight-point scale (from "not at all" to "extremely so") to express how much the wait made them feel irritated and annoyed ($\alpha = .88$). The second measure (AFF2) consisted of four semantic differential items extracted from Mehrabian and Russell's (1974) scale of pleasure (satisfied/unsatisfied, pleased/annoyed, happy/unhappy, and bored/relaxed; $\alpha = .87$). This followed Taylor and Claxton's (1994) suggestion that researchers should use a well-established scale to measure consumers' affective responses to the wait. Each subject was asked to estimate the length of his or her wait in terms of minutes and seconds (PTIME). The questionnaire also included two measures concerning the acceptability of the wait to the respondent: to what extent the reported waiting duration was acceptable to

the respondent (ACCEPT1) (an eight-point scale ranging from "not at all" to "extremely so") and the extent to which the respondent agreed or disagreed that the reported waiting time was too long (ACCEPT2) (a seven-point scale from "strongly agree" to "strongly disagree").

Results

We followed Jöreskog and Sörbom's (1989, Chapter 9) work and used a three-group (divided according to the real length of the wait experienced by subjects; i.e., short, intermediate, or long) structural-equation model to test comprehensively the mediating effects of perceived waiting duration, affective response to the wait, and acceptability of the wait. Initial results indicated that acceptability had no significant direct effect on service evaluation. Instead, we found that acceptability affects service evaluation indirectly through affective response (Figure 2). This indirect effect is not totally unexpected, because ample evidence obtained from previous satisfaction studies (e.g., Tse and Wilton 1988; Westbrook 1980) show that consumers' evaluative response toward an experience is an important antecedent of their affective state.

TABLE 1
Summary of LISREL Analysis Results^a

Models	Description	χ^2	d.f.	<i>p</i>
M-1	All parameters are allowed to vary across three groups of different wait durations	71.07	69	.409
M-2	$\gamma_{ij}^{(1)} = \gamma_{ij}^{(2)} = \gamma_{ij}^{(3)}$; <i>i</i> = 1, 2, and 3; and <i>j</i> = 1 and 2	92.10	81	.187
M-3	$\gamma_{ij}^{(1)} = \gamma_{ij}^{(2)} = \gamma_{ij}^{(3)} = 0$; <i>i</i> = 1, 2, and 3; and <i>j</i> = 1 and 2	116.90	87	.018

χ^2 difference tests

Interaction effect: $\chi^2 = 21.03$, d.f. = 12, *p* < .05 (M-1 versus M-2)
Information main effect: $\chi^2 = 24.80$, d.f. = 6, *p* < .001 (M-2 versus M-3)

^aAccording to the model shown in Figure 2.

Table 2
LISREL Estimates of M-1^a

Parameters	Short Wait (<i>n</i> = 1)	Intermediate Wait (<i>n</i> = 2)	Long Wait (<i>n</i> = 3)
$\gamma_{11}^{(n)}$	.160 (.29) ^b	1.102 (1.05)	1.853 (1.85)
$\gamma_{12}^{(n)}$	.333 (.59)	-.617 (-.59)	.507 (.51)
$\gamma_{21}^{(n)}$	.043 (.17)	.985 (2.36)	.876 (2.08)
$\gamma_{22}^{(n)}$	-.027 (-.10)	.422 (1.09)	.342 (.61)
$\gamma_{31}^{(n)}$	.042 (.08)	1.766 (2.83)	.650 (1.41)
$\gamma_{32}^{(n)}$	.487 (.91)	1.192 (1.91)	2.111 (4.50)
$\beta_{23}^{(n)}$	.289 (3.00)	.456 (4.01)	.670 (3.49)
$\beta_{41}^{(n)}$	-.024 (-.38)	-.050 (-.99)	-.105 (-1.65)
$\beta_{42}^{(n)}$	.710 (4.08)	.776 (5.41)	.621 (4.19)

^aFor the sake of simplicity, only the estimated values of the key parameters are presented.

^bNumbers inside the parentheses are t-values of the estimates | t-value | > 1.64, *p* < .05 (two-tailed test).

As shown in Figure 2, the model includes two dummy variables that represented the three information groups: The first group, INFO1, was coded as a value of 1 when waiting-duration information was available, whereas the second group, INFO2, was coded as a value of 1 when queuing information was available. Because both INFO1 and INFO2 were categorical variables, we added a pseudovariate (i.e., "one") to the model and used the augmented moment matrix in LISREL analysis (for a detailed explanation of this procedure, see Bagozzi and Yi 1989).

When all parameters were allowed to vary across the three groups, the model (M-1) produced a chi-square value of 71.07 with 69 degrees of freedom (*p* = .409), which indicates a good fit. Two alternative models were used to examine the significance of the information main effect, as well as the interaction effect between the time and information treatments (cf. Bagozzi and Yi 1989). The first alternative model (M-2) constrained all the direct causal effects of

INFO1 and INFO2 to be identical across the three groups (i.e., $\gamma_{ij}^{(1)} = \gamma_{ij}^{(2)} = \gamma_{ij}^{(3)}$, for *i* = 1, 2, and 3; *j* = 1 and 2). This model registers a chi-square value of 92.10 with 81 degrees of freedom (*p* = .187). The chi-square difference test between M-1 and M-2 reveals a significant interaction effect between information and waiting duration on the dependent constructs. The overall fit of M-1, as indicated by the chi-square value, is significantly better than M-2 ($\chi^2 = 21.03$, d.f. = 12, *p* < .05) and therefore rejects the statistical hypothesis that all the γ_{ij} 's are identical across the three duration groups. In other words, the two types of information tend to have different magnitudes of impact on perceived waiting duration for, affective response to, and acceptability of waits of different lengths.

The second alternative model (M-3) tests the significance of the information main effect by specifying all the direct causal effects of INFO1 and INFO2 as 0 (i.e., $\gamma_{ij}^{(1)} = \gamma_{ij}^{(2)} = \gamma_{ij}^{(3)} = 0$, for *i* = 1, 2, and 3; *j* = 1 and 2). This model gave a chi-square value of 116.90 with 87 degrees of freedom (*p* = .018). The chi-square difference test between M-2 and M-3 was significant ($\chi^2 = 24.80$, d.f. = 6, *p* < .001), which implies that the information main effect was significant (Bagozzi and Yi 1989).

A summary of the analysis is presented in Table 1 and the parameter estimates of M-1 (the best of the three models tested) are reported in Table 2.

Short-Wait Condition (*H*₁)

The short-wait condition was designed to assess potential threshold effects of waiting information. In this condition, when *n* = 1 (see Table 2), all γ s are nonsignificant. This confirms that none of the three mechanisms were operating under the short-wait condition (*H*₁). The significant $\beta_{23}^{(1)}$ (.289, t-value = 3.00) and $\beta_{42}^{(1)}$ (.710, t-value = 4.08) merely suggest that acceptability and affective response had either a direct or indirect positive effect on service evaluation.

Intermediate-Wait Condition (H_2 – H_4)

In the intermediate-wait condition (i.e., when $n = 2$; see Table 2), $\gamma_{11}^{(2)}$, $\gamma_{12}^{(2)}$, and $\beta_{41}^{(2)}$ are all nonsignificant. The results do not support H_2 that perceived waiting duration is a key mediator between the two types of information and service evaluation.

Regarding the influence of waiting-duration information on the other mediating constructs in the model, the parameters $\gamma_{21}^{(2)}$ (.985, t -value = 2.36), $\gamma_{31}^{(2)}$ (1.766, t -value = 2.83), $\beta_{23}^{(2)}$ (.456, t -value = 4.01), and $\beta_{42}^{(n)}$ (.776, t -value = 5.41) are all significant. For queuing information, the analysis obtained significant estimates with $\gamma_{32}^{(2)}$ (1.192, t -value = 1.91) and $\beta_{23}^{(n)}$ (1.766, t -value = 2.83), but a nonsignificant estimate with $\gamma_{22}^{(2)}$ (.422, t -value = 1.09). The results support H_3 that affective response is a key mediating variable between the two types of waiting information and service evaluation. In addition, a more positive affective response could be partly attributed to subjects perceiving a more acceptable wait ($\gamma_{31}^{(2)}$, $\gamma_{32}^{(2)}$, and $\beta_{32}^{(2)}$ are positively significant) with either type of information. Acceptability is another key variable mediating the effects of the two types of waiting information on service evaluation. This confirms H_4 .

Long-Wait Condition (H_5 – H_8)

In the long-wait condition (i.e., when $n = 3$; see Table 2), both $\gamma_{11}^{(3)}$ (1.853, t -value = 1.85) and $\beta_{41}^{(3)}$ (–.105, t -value = –1.65) are significant, but the sign of $\gamma_{11}^{(3)}$ is contrary to that hypothesized by the resource-allocation model, namely, that waiting information reduces perceived waiting duration. According to the model, subjects given waiting-duration information perceive a shorter waiting duration (hence $\gamma_{11}^{(3)}$ should be negative). As in the intermediate-wait condition, queuing information had no significant effect on perceived waiting duration ($\gamma_{12}^{(3)} = .507$, t -value = .51). The LISREL results again do not support the hypothesis that the perceived waiting duration is a key mediator between the two types of information and service evaluation (H_5).

For affective response and acceptability, analysis showed that $\gamma_{21}^{(3)}$ (.876, t -value = 2.08), $\gamma_{32}^{(3)}$ (2.111, t -value = 4.50), $\beta_{23}^{(3)}$ (.670, t -value = 3.49), and $\beta_{42}^{(3)}$ (.621, t -value = 4.19) were significant, but $\gamma_{22}^{(3)}$ (.342, t -value = .61) was not. These results, similar to those in the intermediate-wait condition, lend support to H_6 ; namely, affective response mediates the effects of the two types of waiting information on service evaluation. The effect of queuing information on affective response could be attributed primarily to subjects perceiving the wait as more acceptable (H_7). On the other hand, $\gamma_{31}^{(3)}$ (.650, t -value = 1.41) was nonsignificant, and this supported our hypothesis that subjects might find it difficult to reappraise the long wait as acceptable when they are given waiting-duration information (H_8).

Discussion

The LISREL results show that the two types of waiting information had a significant impact on affective response and acceptability in the intermediate- and long-wait conditions only. Moreover, in the long-wait condition, waiting-duration information did not have a significant effect on the accept-

ability of the wait. This resulted in a significant drop in the effects of waiting-duration information on acceptability and affective response (the latter was partly determined by acceptability) in the long-wait condition, to a level below that produced by queuing information (see Tables 3 and 4). These results also are captured by a significant interaction of the two experimental treatments (waiting durations and information types) on affective response (Hotelling's $T^2 = .131$, $p < .05$) and acceptability (Hotelling's $T^2 = .148$, $p < .05$). In Tables 3 and 4, the residual means (Rosnow and Rosenthal 1989; Ross and Creyer 1993) reveal that the significant interaction effects originate from two sources. First, for both dependent constructs, the two information groups registered higher residual means in the intermediate- and long-wait conditions than in the no-information condition, whereas the opposite was true in the short-wait condition. Second, there were higher residual means for the waiting-duration information group than for the queuing-information group in the intermediate-wait condition, but the effects were reversed in the long-wait condition. The same pattern of variation in cell means also applied to the two measures of service evaluation (EVAL1 and EVAL2, see Table 5), though the interaction effect was not significant (Hotelling's $T^2 = .095$, $p > .1$).

Conclusions and Implications

According to Hornik (1984), perceived waiting duration conventionally is recognized as a powerful construct for capturing the economic cost of waiting, that is, the outcome of variation in objective waiting duration. The salience of perceived waiting duration may be related partly to the embryonic link to time-judgment literature. However, our findings suggest that perceived waiting duration is not a salient mediator between the two types of waiting information and service evaluation.

A closer examination of the mean scores of perceived waiting duration (Table 6) suggests the existence of an assimilation effect on time perception (Ahmadi 1984). Subjects with waiting-duration information (see Table 6) appeared to use the given time as an anchor; and their mean time estimate, when compared with those obtained from the other two information groups, was the closest to the real waiting duration. On the other hand, the no-information subjects tended to underestimate the length of the wait for all three durations of wait. The tendency to underestimate waiting duration was also found with subjects who had queuing information (in the intermediate- and long-wait conditions). These results indicate that subjects with either waiting-duration information or queuing information did not perceive a shorter waiting duration than subjects without the information. In contrast, subjects with waiting duration information appeared to report a longer perceived waiting duration than subjects without the information. Although waiting-duration information leads to a significantly longer perceived waiting duration, the information has a positive effect on service evaluation through a more-positive affective response to the wait.

The effects of waiting information are mediated by the psychological cost of waiting (Osuna 1985). The results indicate that affect and acceptability are the key mediators op-

Table 3
Acceptability as a Function of Information and Wait: Mean Scores

	No Information	Waiting-duration Information	Queuing Information	Row Mean
ACCEPT1^a				
Short wait	5.00 (+.83) ^b	4.87 (-.14)	4.73 (-.68)	4.87
Intermediate wait	2.53 (-.64)	4.73 (+.72)	4.33 (-.08)	3.87
Long wait	2.07 (-.19)	2.53 (-.57)	4.27 (+.77)	2.96
Column mean	3.20	4.04	4.44	3.90 ^c
ACCEPT2^d				
Short wait	4.73 (+.38) ^b	4.80 (-.29)	5.33 (-.11)	4.96
Intermediate wait	3.47 (-.05)	4.87 (+.61)	4.07 (-.54)	4.13
Long wait	2.07 (-.32)	2.80 (-.33)	4.13 (+.65)	3.00
Column mean	3.42	4.16	4.51	4.03 ^c

^a1-8 rating. Higher score indicates the wait is more acceptable.

^bNumbers in the parentheses are the residual means.

^cGrand mean.

^d1-7 rating. Higher score indicates the wait is more acceptable

MANOVA Results

Waiting-duration main effect: Hotelling's $T^2 = .271, p < .001$.

Information main effect: Hotelling's $T^2 = .098, p < .05$.

Interaction effect: Hotelling's $T^2 = .148, p < .05$.

TABLE 4
Mean Scores of the Two Measures of Affective Response as a Function of Information and Wait

	No Information	Waiting-duration Information	Queuing Information	Row Mean
AFF1^a				
Short wait	6.37 (+.77) ^b	6.63 (-.39)	6.57 (-.36)	6.52
Intermediate wait	4.13 (-.54)	6.60 (+.51)	6.03 (+.03)	5.59
Long wait	3.57 (-.22)	5.10 (-.11)	5.47 (+.35)	4.71
Column mean	4.69	6.11	6.02	5.61 ^c
AFF2^d				
Short wait	5.00 (+.54) ^b	5.03 (-.38)	5.15 (-.16)	5.06
Intermediate wait	3.45 (-.16)	5.03 (+.47)	4.13 (-.33)	4.21
Long wait	2.63 (-.38)	3.85 (-.11)	4.33 (+.47)	3.61
Column mean	3.69	4.64	4.54	4.29 ^c

^a1-8 rating. Higher score indicates more positive affective response.

^bNumbers in the parentheses are the residual means.

^cGrand mean

^d1-7 rating. Higher score indicates more positive affective response.

MANOVA Results

Waiting-duration main effect: Hotelling's $T^2 = .302, p < .001$.

Information main effect: Hotelling's $T^2 = .196, p < .001$.

Interaction effect: Hotelling's $T^2 = .131, p < .05$.

TABLE 5
Service Evaluation as a Function of Information and Wait: Mean Score

	No Information	Waiting-duration Information	Queuing Information	Row Mean
EVAL1^a				
Short wait	6.40 (+.54) ^b	6.73 (-.15)	6.27 (-.39)	6.47
Intermediate wait	4.87 (-.23)	6.47 (+.35)	5.80 (-.10)	5.71
Long wait	4.00 (-.30)	5.13 (-.19)	5.60 (+.50)	4.91
Column mean	5.09	6.11	5.89	5.70 ^c
EVAL2^d				
Short wait	5.83 (+.44) ^b	5.87 (-.31)	5.80 (-.13)	5.83
Intermediate wait	4.77 (-.07)	5.97 (+.34)	5.10 (-.28)	5.28
Long wait	3.70 (-.38)	4.83 (-.04)	5.03 (+.41)	4.52
Column mean	4.77	5.56	5.31	5.21 ^c

^a1-8 rating. Higher score indicates more positive evaluation.

^bNumbers in the parentheses are the residual means.

^cGrand mean.

^d1-7 rating. Higher score indicates more positive evaluation.

MANOVA Results

Waiting-duration main effect: Hotelling's $T^2 = .237$, $p < .001$

Information main effect: Hotelling's $T^2 = .110$, $p = .01$.

Interaction effect: Hotelling's $T^2 = .095$, $p > .1$.

TABLE 6
Mean Scores of Perceived Waiting Duration^a as a Function of Information and Wait

Wait	No Information	Waiting-duration Information	Queuing Information
Short	4.87	5.03	5.20
Intermediate	9.13	10.23	8.51
Long	12.18	14.03	12.69

^aIn minutes.

ANOVA Results

Waiting duration main effect: $F(2,126) = 111.81$, $p < .001$.

Information main effect: $F(2,126) = 2.38$, $p < .1$.

Interaction effect: $F(4,126) = .83$, $p > .1$.

erating between the two types of waiting information and service evaluation. The column means in Tables 3 and 4 show that subjects reported affective responses that are more positive and considered the wait more acceptable when either type of information was available than when no information was available. These findings suggest that researchers may need to look beyond perceived waiting duration to include such variables as affective response and acceptability when examining the impact of waiting on service evaluation (Katz, Larson, and Larson 1991).

The salience of affective response in overall service evaluation has received some support in recent studies of environmental distractions. For example, Kellaris and Kent (1992) suggest that pleasant music reduces consumer dissatisfaction with waiting because of its impact on consumers' emotional feelings during the wait. In addition to the valence (pleasure) dimension, researchers may also want to examine the impact of the arousal dimension (Mehrabian

and Russell 1974) on service evaluation by contrasting the effects of stimulating versus nonstimulating music on consumers' reaction to waiting.

Our findings also provide empirical support for Osuna's (1985) conjecture that waiting-duration information may not be the most effective tool to minimize consumer dissatisfaction with extended waits. This is important to service managers when they consider what kind of information they should give their waiting customers. In short waits, no information is needed. When the wait is intermediate, waiting-duration information appears to be a better choice than queuing information. However, when the wait is long, waiting-duration information may be less effective than queuing information in assuaging consumer dissatisfaction with the wait. Our findings indicate that knowing in advance that there will be an extended wait may substantially weaken the cognitive reappraisal effect of waiting-duration information.

An alternative solution suggested by our findings is to replace waiting-duration information with queuing information. For example, in a bank, a continuous update of the queue so that consumers can have a better idea about their position in the line may result in a more positive reaction to the wait than a device that displays the expected length of the delay. This strategy is particularly important when the service organization has difficulty in accurately estimating the length of the wait or when the line is not visible to customers (e.g., waiting for a table in a restaurant or waiting to see a physician at a clinic). An alternative strategy is the installation of a take-a-number-and-wait system at the reception area.

Limitations

It is important to note that our study only examines the effects of queuing information with continuous updates. If there is no

update of a person's position in the queue, would the information be equally effective in ameliorating consumers' reaction to the wait? Can our results be attributed to the greater amount of information given in the queuing-information condition than in the waiting-duration information condition? Can consumers' reactions to the wait be improved further when both types of waiting information are available? Furthermore, the controlled laboratory setting in which this study was conducted may not reflect the complexity of many service situations in which consumers are asked to wait. For example, our subjects are captive to the wait, which may not be the case in many real-life situations. A high-balking rate is possible, because consumers may choose to suspend the service encounter when waiting-duration information suggests that there will be a long wait (Katz, Larson, and Larson 1991).

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Price Search in the Retail Grocery Market

The literature has produced an incomplete understanding of factors explaining the variance in price search in markets in which search is a regularly occurring activity. The authors develop a model of price search in the retail grocery industry by expanding the classic cost-benefit model and integrating psychosocial returns and concepts from human capital theory. The results indicate that prior *investment search* and *market mavenism* explain significant amounts of variance in price- and specials-related search, respectively, beyond that accounted for by economic costs and returns. The authors further explore the habitual nature of price search in this industry, consider the implications of the social value of price-specials information, and discuss the indirect impact of demographic characteristics. They consider implications for pricing strategy and competition, including reasons why previous research has found that executives overestimate consumer price search.

It is not surprising that consumers vary in their propensity to search for prices across retail stores, because the distribution of consumer search and demand is a natural force that drives marketplace competition (Schwartz and Wilde 1979; Wilde and Schwartz 1979). What is surprising is the difficulty the marketing field has had in understanding and explaining the most elemental characteristics of consumer search in markets in which price search is an ongoing activity. Previous research has found, for example, that executives in the retail grocery industry tend to overestimate the proportion of consumers who actively search and respond to advertised price information (see Boynton, Blake, and Uhl 1983; Kalapurakal, Dickson, and Urbany 1994; Urbany, Dickson, and Key 1991). Furthermore, the industry's traditional conventional wisdom that many consumers travel between stores in response to price specials (Walters 1991) conflicts with evidence that suggests that store switching is not the dominant explanation of incremental promotional sales (see Blattberg, Eppen, and Lieberman 1981; Walters 1991; Walters and MacKenzie 1988; Walters and Rinne 1986). Thus, some have suggested that the industry has been overly price-competitive in the past (O'Connor 1986; Walzer 1987).

Similarly, researchers in marketing have not fared well in explaining price search across retailers in frequently purchased categories. Indeed, one of the most comprehensive evaluations of Stigler's (1961) cost-benefit model in the

marketing literature explains only 9.8% of the variance in an index of self-reported price search across dealers in the retail gasoline market (Goldman and Johansson 1978). Because the average household's grocery expenditures (over \$70 per week; *Progressive Grocer* 1995) exceeds those for gasoline purchases, we expect economic factors to provide a stronger explanation of search behavior in the retail grocery market. However, the study of price search in this market has been limited by studies tending to examine relatively small sets of predictors and using dependent measures that do not directly capture the search for price information (e.g., Alchaly 1976; Kujala and Johnson 1993; Lichtenstein, Ridgway, and Netemeyer 1993).

We attempt to improve the explanation of price-search behavior in the \$400 billion U.S. retail grocery market by providing a relatively complete accounting of economic returns and search costs and by addressing the following issues:

1. Accounting for the habitual nature of search: Grocery shopping appears to have a strong habitual component that may influence ongoing price search. Applying human capital theory (cf. Stigler and Becker 1977), we suggest that consumers may invest in search early in their market experience to reap both present and future returns from it; that is, more extensive search when a person enters a market may substitute for later search. Insight into the effects of knowledge and habit is further obtained by examining separately the impact of demographic variables (age, education, and gender), which have been used frequently as surrogates of consumer knowledge and efficiency (cf. Doti and Sharir 1980; Fast, Vosburgh, and Frisbee 1989; Kolodinsky 1990) but have provided mixed results. We examine the explanatory power of these surrogates relative to more direct measures of consumer knowledge.
2. Accounting for noneconomic returns to search: In recent literature, it is suggested that consumers are not only motivated by economic concerns in price search, but may also be driven by other noneconomic returns, including shopping enjoyment (Doti and Sharir 1980; Marmorstein, Grewal, and Fiske 1992) and social returns from providing information to others (Feick and Price 1987). This suggestion is

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controversial from two perspectives. First, it may be that economic factors simply eliminate the effects of such noneconomic returns from search (which we label *psychosocial returns*). In other words, the softer returns captured in these psychosocial factors may fall out of the model when other variables are included (as Grewal and Marmorstein [1994] found for shopping enjoyment). On the other hand, the emergence of psychosocial returns as significant predictors within a larger model suggests that the classic model focusing on economic factors is underspecified.

- 3 Using more direct measures of price search: Previous research has tended to use surrogate measures of search behavior. For example, the data from Carlson and Gieseke's (1983) and Kujala and Johnson's (1993) work capture number of stores shopped in a given time frame, requiring the broad assumption that consumers shopping in a larger number of stores do so primarily in the interest of finding lower prices. Although such behavior may be broadly correlated with price search, the measure does not distinguish price search from convenience shopping or variety seeking. Similarly, measures of advertising usage (Bucklin 1969; Zeithaml 1985), *Consumer Reports* readership (Lichtenstein, Ridgway, and Netemeyer 1993), and shopping time (Kolodinsky 1990; Doti and Sharir 1980), though likely related to price search, do not measure price search behavior directly.

We next describe the basic premises of the model and then present the predictor sets and expected relationships.

Model of Price Search

The proposed model of price search incorporates the traditional sets of economic returns to search and search costs, human capital, and a category of predictors we term *psychosocial returns* (shopping enjoyment and market mavenism). Before presenting the model, however, we define price search in this market.

Defining Price Search

We define *price search* here as effort expended in obtaining and comparing the prices of competitive stores. This is the essence of the search behavior addressed in the classic economics-of-information model, in which price search in a given period is defined as the number of stores or vendors from whom the consumer obtains a price for a particular commodity. Although number of stores shopped is a precise measure of price search in a controlled context in which obtaining a low price is the only search objective (cf. Urbany 1986), it is confounded in the real marketplace, because consumers shop multiple stores for reasons other than price. Therefore, instead of using number of stores shopped, we use direct self-reported measures of both general price-comparison effort and price-specials search. In describing the model, we refer to this price search behavior generally as *search*.

Basic Premises of the Model

We assume that, consistent with standard consumer economic theory, consumers engage in household production and allocate time, money, and effort in the production of utility (cf. Marmorstein, Grewal, and Fishe 1992). Leisure activities and various household production activities compete for the limited time that is not spent working, and the

household's "outputs" are constrained by both income and available time. Furthermore, limits on time suggest that once a grocery shopping pattern is learned, it is likely that high switching costs lead to a consumer favoring the status quo choices unless he or she perceives a change in the cost/benefit calculus. The habit likely continues until an event occurs that motivates a break; for example, the shopper notices significant price variation between stores, gets a job promotion, or moves to a new location (cf. Hoch and Deighton 1989; Samuelson and Zeckhauser 1988). This assumption is consistent with the finding that three-quarters of the average household's grocery budget is spent in a single primary store (*Progressive Grocer* 1992, 1993, 1994, 1995), as well as Stigler and Becker's (1977) discussion of *human capital* (knowledge) as one of the household's outputs. Stigler and Becker (p. 82) suggest that the habitual purchase from one source can be explained by the fact that "the costs of searching for information and applying it to a new situation are such that habit is often a more efficient way to deal with moderate or temporary changes in the environment than would be a full, apparently utility-maximizing decision." Stigler and Becker explain habit to be, in part, a function of previous investments in human capital, which are made by the household in the interest of future payoffs (i.e., less-effortful price search in subsequent periods). Such capital stocks of price information and search skills may need to be updated periodically but can generally serve the purpose of substituting for search each time the consumer enters the market.

We use the model to explain why some consumers are less subject to this inertia and allocate more effort to actively compare prices across competitive stores. Using previous theory as a basis, we discuss four general sets of factors that offer explanations: economic returns, costs or constraints, human capital or experience, and psychosocial returns. The following relationships are hypothesized (the signs next to each construct indicate the expected direction of the effect on search):

$$\text{SEARCH} = f[(\text{Economic Returns: +PPD, +BC}); \\ (\text{Search Costs: -TIME, -MOB, -DIFF, -YC}); \\ (\text{Human Capital: ?K, -IS, +TM}), \\ (\text{Surrogates: ?AGE, ?GEN, ?EDU}); \\ (\text{Psychosocial Returns: +MM, +SE})],$$

where

PPD = perceived price dispersion

BC = budget constraints

TIME = time constraints

MOB = mobility constraints

DIFF = difficulty of store comparison

YC = presence of young children

K = market knowledge

IS = investment search

TM = time management skills

AGE = age

GEN = sex (0 = male, 1 = female)

EDU = education

MM = market maven motivation

SE = shopping enjoyment

We consider each predictor set in turn. The first two variable sets, economic returns and search costs, represent the fundamental economic correlates of search (our base model). The other predictors include both new and previously studied determinants, each expected a priori to contribute uniquely to the explanation of search beyond the base economic concerns. Measurement information is provided in the Appendix.

Economic Returns from Search

The true economic gain or return a consumer obtains from search is a lower price (i.e., the expected savings from an additional unit of search; Hawkins and McCain 1979; Marvel 1976; Stigler 1961). In the traditional model, the consumer's beliefs about the expected economic returns from search are a function of his or her perceptions of the price distribution (e.g., the wider the price distribution, the greater the likely return from search; see Urbany 1986), as well as the economic importance of the purchase. We capture these notions through perceived price dispersion and budget constraints.

Perceived price dispersion (PPD). The traditional indicator of search benefit in information economics is PPD (cf. Axell 1974; Gastwirth 1976; Goldman and Johansson 1978; Stigler 1961; Tellis and Wernerfelt 1987; Urbany 1986). The theory suggests that by making some judgment of the relative width of the price dispersion in the market (or the variance in available prices), the consumer determines the likely financial return from search, which is then weighed against the expected incremental costs of search to determine how many vendors to sample. Results regarding this classic hypothesis have been mixed (see Bucklin 1969; Claxton, Fry, and Portis 1974; Duncan and Olshavsky 1982; Goldman and Johansson 1978), in part because consumers are likely to learn *where* low prices are offered as they learn that market prices are dispersed (Urbany 1986). In the grocery industry, however, there is evidence that PPD is related positively to search behavior (Bucklin 1969).

Budget constraints (BC). Stigler (1961) reasoned that the more economically significant an expenditure was to the household's budget, the greater would be the gain from searching for lower prices. Although this can be captured by measures of the size of expenditures, expenditure size can vary with other factors (e.g., household size); and what may be more important in motivating search is pressure from the upper bound on that expenditure. Here, we measure *perceived budget constraints* (PBC) as an indicator of perceived returns to search, because more budget-constrained

households have greater incentives to search for lower prices. Furthermore, though income has been used previously as a surrogate for opportunity cost of time,¹ we use *income per household member* (IHH) to capture BC by indicating a relative cap on household expenditures per family member (cf. Carlson and Gieseke 1983). This is consistent with Goldman's (1977) and Hoch and colleagues' (1995) arguments that income constrains grocery budgets, which we believe makes price comparison more likely among those households with lower per capita income levels (see also Roberts and Wortzel 1979; Wakefield and Inman 1993). Household income and household size have similarly been discussed by Krishna, Currim, and Shoemaker (1991) as influencing involvement in promotional activity.

Search Costs or Constraints

Time constraints (TIME). The economics of information theory is based on the premise that customers do not inform themselves fully about competitive prices, because search is a costly undertaking (Ratchford 1982; Stigler 1961). In particular, the cost of a consumer's time clearly influences how much search is optimal (Crowell and Bowers 1977). We include a self-reported index of *perceived time constraints* (PTC), as well as the *number of hours per week of paid employment* (WKHRS) as indicators of time cost.

Presence of young children (YC). Non-school age children require special attention and a great deal of time that might otherwise be allocated to shopping activities (Blattberg et al. 1978; Blaylock and Smallwood 1987; Doti and Sharir 1981). The presence of young children in the household (NC < 5) should be associated with less time being available for shopping (Kolodinsky 1990) and, therefore, less search.

Difficulty of store comparison (DIFF). Another key constraint facing consumers who want to comparison shop is the sheer complexity of the task. Competitive grocery stores often carry 10 to 20 thousand items, with different brand and size assortments in each product category and with different store layouts. Research in information processing suggests that consumer search and decision making are affected by the complexity of the task environment (e.g., Lussier and Olshavsky 1979). Additionally, reported DIFF may reflect limitations in consumers' cognitive processing abilities. In either case, we propose that *perceived difficulty of store comparison* (PDC) reduces search.

Mobility constraints (MOB). Physical comparison shopping is constrained for some consumers by a lack of avail-

¹Alternatively, wage rate is a measure of opportunity cost, but we do not use it here because of both methodological and conceptual reasons. Only a portion of the sample responded to a direct measure of hourly wage rate, and methods of estimating wage rate were not consistent with actual reports in some cases (see also Zimmerman and Geistfeld 1984). Our view is that income and wage rate are not necessarily true indicators of the value of time, which is reflected in their mixed results in explaining measures of SEARCH and time value (Fast, Vosburgh, and Frisbee 1989; Goldman and Johansson 1978; Grewal and Marmorstein 1994; Kolodinsky 1990; Marmorstein, Grewal, and Fishe 1992). Con-

ceptually, there are two problems with using wage rate as a surrogate of the opportunity cost of time. First, this usage assumes that work is the only activity competing with SEARCH, which is generally not the case (Zimmerman and Geistfeld 1984). Second, it assumes that work and search are activities that compete for the *same* time, that is, that consumers can choose at a given hour either to work or engage in household production (in this case, SEARCH). However, only a small percentage of the population (consumers who control their own schedules, such as entrepreneurs and college professors) have the opportunity to view work and household production as substitute activities during a given hour.

able or reliable transportation (Blattberg et al. 1978) and personal health concerns. Such constraints (ENERGY, HEALTH, TRANSP, DRIVING; see Appendix) should reduce price search.

Human Capital

The learning of the primary shopper in a household can be viewed as an investment in human capital (Blaylock and Smallwood 1987; Michael and Becker 1973; Stigler and Becker 1977)—a concept that equates to knowledge accumulated over time. Although surrogate indicators of search efficiency have been discussed in tests of the information-economics framework (Goldman and Johansson 1978; Marvel 1976), Stigler's (1961) original work discusses knowledge only in terms of awareness of the properties of the price distribution (cf. Urbany 1986). Specifically, he assumes that consumers have some a priori knowledge of the price distribution and that previous search can limit future search if prices are correlated over time. We focus on human capital as knowledge of competitive stores, investment search (i.e., previous search that identifies a primary store), and time management skills. We classify human capital and the efficiency surrogates separately from economic returns and search costs, because they cannot be classified unambiguously as indicators of search costs or search returns. We subsequently discuss knowledge, investment search, and time management skills as dimensions of human capital.

Knowledge (K). The literature suggests that K and associated search efficiency have a positive effect on search (cf. Alba and Hutchinson 1987; Brucks 1985; Carlson and Gieseke 1983; Goldman and Johansson 1978; Kiel and Layton 1981; Lanzetta 1963; Sieber and Lanzetta 1964; Zimmerman and Geistfeld 1984). Alba and Hutchinson (1987), however, also footnote the possibility that knowledgeable consumers may also have a store of current K in memory and, therefore, can substitute internal search for external search (i.e., K reduces benefits of external search; see also Beatty and Smith 1987; Kolodinsky 1990; Punj and Staelin 1983). Thus, consumers who report being more knowledgeable about local stores may actually engage in less price search than those who are less knowledgeable. Therefore, we offer no strong directional hypothesis regarding the effect of K.

Investment search (IS). Because of the ongoing nature of grocery shopping, the benefits of regular, extensive search and store switching exceed the costs for only a minority of consumers. Household production theory suggests that for activities that consumers expect to repeat in the future, they may make an initial investment in learning with a long-term efficiency payoff in mind (cf. Michael and Becker 1973). In the market we study, such efficiency may take the form of searching early on to identify a store that is the household's primary source of groceries. We propose that some consumers initially do invest in search to identify a preferred store, that is, to obtain knowledge that enables them to simplify their shopping patterns (cf. Srinivasan and Ratchford 1991). Such IS is consistent with Samuelson and Zeckhauser's (1988, p. 35) contention that when the costs of repeating a decision analysis are high, "it may well be optimal

for individuals to perform an analysis once, at their initial point of decision, and defer to the status quo choice in subsequent decisions, barring significant changes in the relevant circumstances." In the market we study, there had been no entry of new chains for three years. Hence, it is likely that shopping patterns were settled. We propose that consumers who report having conducted early IS aimed at identifying a primary store and simplifying later shopping are less likely to engage in ongoing search.

Time management skills (TM). Consumers who report being more skilled at managing time should, all else being equal, be more efficient in household production activities. Consistent with the assumption that good *perceived time management skills* (PTM) should help make more time available, such skills should be positively associated with search.

Demographic Surrogates

In the study of price search, demographics, such as age (AGE), education (EDU), and sex (GEN), have frequently been used as surrogate measures of search efficiency (e.g., Blaylock and Smallwood 1987; Carlson and Gieseke 1983; Doti and Sharir 1981; Kolodinsky 1990). The general assumption is that with experience (reflected in age, female gender, and better education), consumers are more efficient and have greater capability to engage in search (cf. Goldman and Johansson 1978; Marvel 1976), which is similar to the literature we previously discussed. Regarding AGE, however, Stigler and Becker's (1977) work appears to suggest the opposite; that older consumers have a shorter time horizon for enjoying future returns from current search and are more likely to have prior experience with which to simplify current shopping routines. Because demographic factors such as AGE capture factors other than just efficiency and experience (e.g., tastes; Blaylock and Smallwood 1987; Fast, Vosburgh, and Frisbee 1989), we cannot make an unambiguous prediction regarding the effects of such factors on SEARCH. Therefore, we do not hypothesize directional effects for demographics.

Psychosocial Returns from Search

Market maven motives (MM). Market mavenism is the tendency to collect marketplace information with the intent of sharing it with others. As such, mavens obtain social returns from search behavior (Feick and Price 1987). In multiple studies, MM has been found to be associated with earlier awareness of new products and brands, more frequent information provision, greater shopping enjoyment, greater coupon use, and greater information search (Feick and Price 1987; Higie, Feick, and Price 1987; Inman, McAlister, and Hoyer 1990; Price, Feick, and Guskey-Federouch 1988). Although not inconsistent with later work in economics, the notion that MM influences search (beyond other factors) has implications for the importance of word of mouth as an information transmission mechanism in the retail grocery market.² No previous study has determined whether MM contributes to the explanation of search beyond the classic economic benefits and costs of search. Using previous re-

search as a basis, we expect MM to be associated positively with search.

Shopping enjoyment (SE). We hypothesize that reported SE, reflecting an incremental utility beyond the utility associated with obtaining lower prices, is positively related to search. This prediction has been offered and supported in similar contexts (Beatty and Smith 1987; Doti and Sharir 1980; Kolodinsky 1990; Marmorstein, Grewal, and Fishe 1992).

Method

Procedure

The research was undertaken as part of a larger survey in a major midwestern city that is frequently used as a test market. Households were selected randomly and telephone interviews were conducted by a leading market research firm. At the end of the interview, respondents were invited to participate in a second phase of the study, which would involve a mail survey. Respondents were the primary grocery shoppers in their households and were paid \$10 for their participation.

Sample

Of 422 consumers responding to both the telephone and mail surveys, 343 provided usable surveys.³ Of those, 83% were female and the mean age was 44.7. Mean annual household income was \$39.9 thousand and 57% of the sample reported having at least two years of college education. Mean household size was 2.57 and respondents reported an average grocery budget of \$64 per week. Eighteen percent reported having children under five years of age and 34% of the sample reported zero hours of paid employment (average work hours/week = 25.4). Relative to the latest census data, the sample slightly overrepresented consumers from older age groups and the average household income category.

Measurement: Dependent Variable

In the spirit of Goldman and Johansson's (1978) work, we used direct, self-reported measures of price comparison. Cross-store search is accomplished through regular comparison of prices in competitive stores in the normal course of shopping and through the search for information about price specials through advertising, friends, or shopping for spe-

cials. The primary dependent variable in the study (COMPARE) consists of two measures obtained from the mail survey and one from the telephone survey, each developed to assess consumers' general tendencies to engage in price comparisons between stores. Two 5-point agree-disagree items obtained in the mail survey were used to capture general price comparison behavior ("I compare the prices of different stores;" "I often compare the prices of fruit and vegetables at two or more grocery stores"), and an item from the telephone survey, which inquired about the frequency with which the respondent made price comparisons across stores ("How often do you compare the specific prices of grocery stores—weekly, monthly, less often, never?"). After standardization to adjust for scale differences, these three items ($\alpha = .81$, construct reliability = .82, extracted variance = .61) were averaged to form COMPARE.

Price search specifically related to obtaining information about price specials at different stores requires more effort than that captured in COMPARE, because this search assesses a regular, ongoing evaluation of several sources of information about weekly price specials. Four measures (READ, DECIDE, FRIENDS, SPECIALS) capture aspects of search and response to price specials through yes/no questions from the telephone survey. READ is a dichotomous variable identifying respondents who indicated that they regularly read print advertisements or fliers to compare prices and/or check price specials (52%). DECIDE indicates that the shopper decides each week where to shop on the basis of advertisements or fliers (32%). FRIENDS identifies consumers who often talk to friends about price specials before their weekly shopping (20%). SPECIALS identifies consumers who report regularly shopping "the price specials at one store and then the price specials at another store" (17%).

Measurement: Independent Variables

The Appendix presents measurement information for the independent variables and provides the specific items used, the means and standard deviations, and coefficient alpha for multi-item scales. Feick and Price's (1987) items were used for the MM scale, whereas items generated for other scales were similar to those used in other studies (e.g., Beatty and Smith 1987; Duncan and Olshavsky 1982; Goldman and Johansson 1978). The newest construct, IS, was measured by three items that specifically focused respondents on previous behavior in shopping at several stores to identify a primary store (e.g., "I shopped back and forth between several different stores *before* choosing where I now do most of my grocery shopping"). A pilot test of 32 consumers was undertaken in the target community, which enabled an initial assessment of scale reliabilities and the survey procedure. On the basis of these results, adjustments were made to some scales in the form of dropping and/or modifying items.

Reliability. Constructs measured with multiple items were initially screened on the basis of coefficient alpha and item-to-total correlations (cf. Lichtenstein, Netemeyer, and Burton 1994). Confirmatory factor analysis was then used to provide standardized loadings for constructs with three or more indicators and obtain overall fit statistics for those

²Stigler and Becker's (1977) work broadens the definition of *returns* experienced by the household to traditionally noneconomic desires that previously had been explained away by differences in tastes. The social benefits obtained with the search and sharing of price information might be one of the household's outputs (just as *social distinction* is considered a desired output of buying brand-name products).

³Missing data on household income provided the greatest explanation of cases lost ($n = 69$, or 16%). For the 38 items used to measure the scaled independent variable constructs, 24 respondents (6%) had missing values on 1 or 2 items. For these respondents, items were plugged with mean values (Cohen and Cohen 1975), with essentially no impact on total sample means or confirmatory factor analysis results.

with four or more indicators (the three-indicator models have zero degrees of freedom, and therefore fit statistics are not diagnostic). Where enough items were available, four indices were used to assess the fit of single-factor models (the goodness-of-fit index, the adjusted goodness-of-fit index, the comparative fit index, and the Tucker-Lewis index). The bulk of these indices were in acceptable ranges, as were estimates of reliability (coefficient alpha and composite reliability) and extracted variances (see Fornell and Larcker 1981). Correlation coefficients are provided in the Appendix for those constructs indicated by only two items and are all above .5. It should be noted that though our original conceptualization of knowledge was unidimensional, a two-dimensional factor structure emerged that was based on exploratory factor analysis. These items generally separated into knowledge of store prices that is, knowledge of stores overall, which stores have the lowest prices and best specials (KNOWP), and knowledge of specialty departments, for example, the best bakery, meat department, or deli (KNOWS).⁴

Discriminant validity. The seven independent variable constructs with three or more items were subjected to further testing to assess discriminant validity (see Anderson and Gerbing 1988). Pairwise confirmatory factor analysis models (two constructs at a time, 21 pairs total) were run, and three separate tests were conducted for all pairs, all of which supported the discriminant validity of the constructs.⁵ In all, the results suggest that the independent constructs, which were indicated with multiple items, demonstrated adequate reliability and discriminant validity.

Results for COMPARE

In Table 1, we present the results of several ordinary least squares (OLS) regression models that explain COMPARE. The results in column A indicate that, with the exception of the surrogates set, each predictor set alone accounts for a significant proportion of explained variance and that the human capital set is particularly dominant. In column B are the results for what we label the *base* model, which contains only economic returns and search costs and enables us to determine how much the other variable sets add to the economic predictors. The base model alone accounts for one-quarter of the variance in COMPARE ($F(11, 331) = 11.23$, $p < .001$), which is more than what is found in several other studies (in the marketing literature) that have attempted to explain price search.⁶

The economic returns predictor set has a squared semipartial correlation (sR^2) of .07, which is the variance it explains for COMPARE after accounting for the variance explained by the search cost set ($F(3,331) = 9.98$, $p < .01$).⁷

⁴Two other items were not included in the K constructs. The measure "I know which stores are closest to my home" was dropped because it correlated poorly with the others (98% of the sample agreed with the statement). The measure "I know which stores have the highest quality produce" loaded equally highly on both dimensions and was not included (for either) because it did not contribute to model fit.

⁵Appendices with all items used, factor loadings, and discriminant validity analyses are available from the authors on request

Both perceived price dispersion (PPD) and income per household member (IHH) are significant and have signs in the expected direction. The unique explained variance for the search cost set in the base model is .12 ($F(8,331) = 6.82$, $p < .01$) and is accounted for by the effects hours of work per week (WKHRS), perceived difficulty of comparison (PDC), and ENERGY constraints, which are again all in the expected direction. In summary, the base model explains a significant proportion of the variance in COMPARE, with five predictors accounting for its explanatory power.

The models in columns C, D, and E of Table 1 each add the other three predictor sets (one at a time) to the base model. The results in column C demonstrate a substantial improvement to the explanation of COMPARE because of the human capital predictor set ($sR^2 = .18$, $p < .01$), which is driven by price knowledge (KNOWP) and investment search (IS). However, the signs for these predictors are positive, which counters our expectation for IS. As we suggested in the set-only analysis, the surrogate predictor set does not add to the explanatory power of the base model (column D), whereas the psychosocial predictor set does contribute uniquely (column E). Market mavenism is significant for the latter predictor set, but shopping enjoyment (SE) is not.

The full model (Table 1, column F) has an adjusted R^2 of .45. In Table 2, column A summarizes the analysis of unique contributions to explained variances for COMPARE. Part I of Table 2 provides results for the base model, whereas Part II provides results for how much the human capital, surrogate, and psychosocial returns sets contribute individually to that model. Finally, Part III presents the unique contributions of the different predictor sets to the full model. These numbers represent the unique variance that is explained by each predictor set controlling for the others (i.e., the difference in R^2 's with and without that predictor set). Within the predictor sets with significant incremental explained variance, IS and KNOWP drive the dominant predictor set, human capital, and are joined by PPD, IHH, and

⁶Explained variances in comparable retail grocery studies in marketing literature on price search include Lichtenstein, Ridgway, and Netemeyer's (1993) prediction of surrogates for low price search ($R^2 = .12$ and $.04$) and Carlson and Gieseke's (1983) prediction of number of grocery stores shopped (R^2 ranging from .151 to .235 for different time periods). As we noted previously, the adjusted R^2 in Goldman and Johansson's (1978) study of propensity to search for price in the retail gasoline market was .098. In studies involving price search for durables, Urbany (1986) reports a total effect size of .109, whereas Grewal and Marmorstein (1994) report R^2 's of .16 and .20 for two different measures of price search intentions. Explained variances have been higher in some studies (in the consumer economics literature) that examine shopping time but not SEARCH directly (e.g., Doti and Sharir 1980).

⁷Using Cohen and Cohen's (1975, p. 132) notation, the squared semipartial correlation for one set in an analysis of two sets would be calculated simply by subtracting from the full model R^2 the variance that is explained by the model that includes the other set only:

$$sR^2_A = R^2_{YAB} - R^2_{YB}$$

This can be generalized to analysis of any number of sets. Cohen and Cohen provide an F-test to evaluate the significance of this increment in explained variance.

TABLE 1
Regression Results for COMPARE

Variable	Betas						
	A	B	C	D	E	F	G
	Set Only Beta	Base Model	Base + Human Capital	Base + Surrogates	Base+ Psychosocial Returns	Full Model	Full Model Excluding Human Capital
Economic Returns:	.12 ^a						
Perceived price dispersion (PPD)	.32 ^a	.26 ^a	.14 ^a	.28 ^a	.22 ^a	.16 ^a	.24 ^a
Perceived budget constraints (PBC)	-.02	.01	.00	.01	.01	.00	.02
Income per household member (IHH)	-.16 ^a	-.12 ^b	-.09 ^b	-.16 ^a	-.09 ^b	-.12 ^a	-.13 ^b
Search Costs:	.18 ^a						
Perceived time constraints (PTC)	.02	-.02	-.02	-.01	.02	-.03	.01
Hours per week of paid employment (WKHRS)	-.16 ^a	-.14 ^a	-.07	-.09	-.13 ^a	-.05	-.11 ^b
Number of children less than five years of age (NC < 5)	.03	-.03	-.07 ^b	-.01	-.03	-.08 ^b	-.03
Perceived difficulty of store companion (PDC)	-.40 ^a	-.32 ^a	-.11 ^b	-.32 ^a	-.27 ^a	-.11 ^b	-.27 ^a
Energy constraints (ENERGY)	-.13 ^b	-.14 ^a	-.04	-.13 ^b	-.08	-.02	-.08
Health constraints (HEALTH)	.07	.06	-.02	.04	.00	-.03	-.01
Transportation constraints (TRANSP)	.02	.03	.07	.02	.02	.06	.02
Driving Stress (DRIVING)	.12 ^b	.10	.05	.09	.11 ^b	.05	.11 ^b
Human Capital:	.40 ^a						
Market knowledge: Price (KNOWP)	.31 ^a	—	.22 ^a	—	—	.19 ^a	—
Market knowledge: Specialty departments (KNOWS)	.01	—	.00	—	—	-.02	—
Investment search (IS)	.43 ^a	—	.38 ^a	—	—	.38 ^a	—
Perceived time management skills (PTM)	.00	—	-.01	—	—	-.01	—
Surrogates:	.01						
Age (AGE)	.12 ^a	—	—	.15 ^b	—	.07	.10
Sex (GEN): 0 = males, 1 = females	.02	—	—	-.01	—	-.05	-.01
Education (EDU): At least two years of college	.01	—	—	.12 ^b	—	.14 ^a	.13 ^b
Psychosocial Returns:	.15 ^a						
Market mavenism (MM)	.32 ^a	—	—	—	.22 ^a	.10 ^b	.23 ^a
Shopping enjoyment (SE)	.13 ^a	—	—	—	.08	.01	.05
Model R ²		.25	.43	.26	.30	.45	.31
Gain in R ² over Base Model			.18 ^a	.01	.05 ^a	.20 ^a	.06 ^a

^ap < .01.

^bp < .05.

education (EDU), which are significant in the full model.⁸ The economic search benefits, PPD and IHH, again have positive and negative effects, respectively, as we predicted (for betas, see Table 1, column F). Also, contrary to expectations, IS has a positive relationship with COMPARE. Similarly, KNOWP is strongly and positively related to search behavior. These relationships are considered subsequently in greater detail.

The model accounts for a substantial amount of the variation in COMPARE, driven in large part by the direct measures of human capital. Note, however, that even without the human capital predictor set, the model still explains nearly one-third of the variance in COMPARE (see Table 1, column G). When the human capital predictors are removed from the full model, the psychosocial returns and search cost predictor sets have significant sR^2 's (for psychosocial returns, $sR^2 = .05$, $F(2,326) = 11.34$, $p < .01$; for search costs, $sR^2 = .07$, $F(8,326) = 4.13$, $p < .01$) and the unique variance that is explained by the economic returns set more than doubles ($sR^2 = .06$, $F(3,326) = 9.45$, $p < .01$). This suggests that these sets are important correlates of COMPARE but that their effects are masked by the human capital predictor set with which they are correlated. Looking across the columns in Table 1, then, we note that both PDC and mavenism (MM) are consistently significant predictors of COMPARE in the predicted direction. Furthermore, the predictor work hours demonstrates a somewhat less consistent, but negative, effect, which we had expected. In addition, when we examine the unique explanatory power of MM (separate from SE), we find that it contributes a small amount of explained variance to the full model for COMPARE (Table 2, column A, row MM Only).

Results for Specials-Related Search

Although the dependent variable, COMPARE, measures the self-reported tendency to attend to prices and make comparisons across competitive stores, our measures of specials search capture consumers' tendency to keep abreast of the price specials that competitive stores advertise each week. Results regarding the explanatory power of the different variable sets for our measures of specials-related search are presented in columns C through F in Table 2. Under those columns, we present incremental chi-square values obtained from logistic regressions for the appropriate nested models. Because the logistic regression model produces an overall chi-square value for each model, the incremental impact of adding another predictor set with j predictors can be assessed through the chi-square difference, which has j degrees of freedom. In column C of Table 2 (Part I), for example, the incremental chi-square values for the base model indicate that both the economic returns ($\chi^2 = 10.29$, $p < .05$)

and search cost predictor sets ($\chi^2 = 18.67$, $p < .05$) contribute significantly to the explanation of READ (regular reading of advertisements for two or more stores for price comparison and specials shopping) when they are the only two sets in the model. For columns C through F, we present only chi-square values significant at .10 or better.

In column B of Table 2, we present OLS regression results for INDEX, which is the sum of the four specials-related measures (correlation with COMPARE = .55, $p < .01$). Although the four dichotomous measures tend to address separate dimensions of specials search (e.g., newspaper search, talking to friends), we combine them to obtain an overall composite score of specials-related shopping, under the assumption that those who engage in more of these behaviors are more active price-searchers than are others. Note that this also enables us to evaluate explained variance for the specials-related search behaviors. In Table 2, Part I, the results show that the base model provides a weaker explanation of specials-related search than it does for COMPARE, though the explained variance for INDEX is still significant (INDEX adjusted $R^2 = .08$, $F(11,331) = 3.58$, $p < .01$). Although the economic returns predictor set is significant for three of the four specials-related measures, READ is the only dependent variable for which both economic returns and search costs are significant.

Part II of Table 2 (columns B through F) show that the three other predictor sets each add significantly to the base model. In particular, both the human capital and psychosocial returns sets improve the base model for all four dichotomous dependent variables (columns C through F) and INDEX (column B). These results, along with those for COMPARE, indicate that the base model is generally significant in its explanation of search behavior as measured here, but it can be improved significantly by adding the human capital and psychosocial returns predictor sets (and, more marginally, by adding the surrogates set).

Table 2, Part III, again demonstrates the unique contribution of each predictor set to the full model. Three general results for the specials-related dependent measures are worthy of note. First, economic returns, human capital, surrogates, and psychosocial returns are significant (at least at .10) for two of the four dichotomous SEARCH measures, whereas search costs are never significant in these models. Second, as we indicate in column B, human capital and psychosocial returns are the only two sets that contribute uniquely to the full model for INDEX (adjusted $R^2 = .20$). Although space constraints prevent the presentation of individual regression coefficients for all models, the only two variables from the significant predictor sets (human capital and psychosocial returns) that are consistently significant across the dichotomous measures are price knowledge (KNOWP) and mavenism (MM). Third, though MM contributes weakly to the full model for COMPARE, it is a relatively strong correlate of specials-related search. The opposite can be said for investment search (IS), which contributes little to the full models for specials-related search (see the effects for IS Only and MM Only in Table 2, Part III). When the economic returns set was significant, income per household member (IHH) (for FRIENDS) and per-

⁸Note that the surrogate set becomes significant in the full COMPARE model, because EDU emerges with a significant effect in the full model. This result does not appear to be reliable, however, because EDU is not significantly correlated with COMPARE ($r = .03$), does not add significantly to the base model, and is insignificant in the set-only analysis presented in column A of Table 2. As we discuss subsequently, the effect of EDU may be emerging as a function of its impact on other predictors.

TABLE 2
Predictor Set Explanatory Power

Model Specification	A	B	C	D	E	F
	sR ² 's					
	COMPARE	INDEX	READ	SPECIALS	DECIDE	FRIENDS
I. Base Model						
Economic Returns	.07 ^a	.03 ^a	10.29 ^b	8.32 ^b	—	16.22 ^a
Search Costs	.12 ^a	.03	18.67 ^b	—	21.06 ^a	—
Base Model R ²	.25 ^a	.08 ^a	—	—	—	—
II. Additions to the Base Model						
Human Capital	.18 ^a	.08 ^a	8.70 ^c	14.37 ^a	35.10 ^a	23.17 ^a
Surrogates	.01	.03 ^b	12.22 ^a	—	—	9.78 ^b
Psychosocial Returns	.05 ^a	.08 ^a	9.52 ^a	11.59 ^a	22.14 ^a	15.16 ^a
III. Unique Contributions to Full Model						
Economic Returns	.03 ^a	.01	7.19 ^c	—	—	10.74 ^b
Search Costs	.01	.00	—	—	—	—
Human Capital	.14 ^a	.03 ^b	—	—	22.37 ^a	12.58 ^b
IS Only	.10 ^a	.00	—	—	—	—
Surrogates	.01 ^b	.01	8.52 ^b	—	—	8.85 ^a
Psychosocial Returns	.00	.03 ^a	—	4.76 ^c	9.11 ^b	—
MM Only	.005 ^c	.03 ^a	3.91 ^b	4.00 ^b	7.75 ^a	3.11 ^c
Full Model R ²	.45 ^a	.20 ^a	—	—	—	—

Note: Incremental chi-square values not significant at $p < .10$ are omitted. INDEX is the sum of READ, SPECIALS, DECIDE, AND FRIENDS.

^a $p < .01$.

^b $p < .05$.

^c $p < .10$.

ceived budget constraints (PBC) (for READ) were the significant predictors. For both dependent variables in which the surrogate predictor set was significant (READ and FRIENDS), sex (GEN) accounted for the effect, with women more likely to engage in both behaviors.

Discussion of Results

Economic returns. We find a relatively consistent positive effect of perceived price dispersion and income per household member (for COMPARE); income per household member is an indicator of household budget constraints.⁹ The economic returns predictors were less consistent in their impact on price specials search.

Search costs. The strongest predictors from the search cost set in the various reduced models (see Table 1) were perceived difficulty of store comparison (PDC) and work hours (WKHRS)—the latter reflects time constraints. However, the search cost predictor set was generally weak in its contribution to the full model, potentially because search costs interact with other factors in influencing search (see Axell's 1974 results; Urbany 1986).

Human capital: Direct measures. Indicators of human capital contributed strongly to the explanation of search (particularly COMPARE). The strong positive associations we observe between price knowledge and all dependent measures reflect either skill and efficiency effects (i.e., more knowledgeable consumers are more efficient and search more) or the updating of market knowledge (i.e., searching consumers know more about prices)—two explanations that are difficult to untangle. When we also consider the positive investment search effects, however, either interpretation is consistent with Stigler and Becker's (1977) theory of human capital, which suggests that search in the past contributes to a subsequent lowering of search costs, and/or additional knowledge is an important output of current search. Although this may seem at odds with the initial hypothesis from the theory that previous search and/or knowledge substitute for ongoing search, it fits well once we take into account an additional factor: the obsolescence of price information. It is apparent that price information (particularly regarding price specials) has a short half-life in this market, which is why we do not find a negative relationship between human capital and search.

Surrogates of human capital. Age, education, and sex are generally weak as direct correlates search, but we also find that age and education are correlated significantly with most of the other independent variables. This suggests that these surrogates play a more indirect role in influencing search behavior. In particular, the role of age is important, because older consumers may differ from younger consumers on many dimensions, including knowledge and efficiency, search costs, and economic returns, as well as attitudes toward thrift and habits of vigilant shopping. Although we do not measure attitudes toward thrift, a follow-up analy-

sis was conducted by comparing mean values of both search and other model variables across age groups (see, for example, Mitra and Lynch 1995). Two age groups were compared: those born before 1946 ($n = 145$) and those born in 1946 or afterwards ($n = 198$). These groups were selected to allow comparison of consumers from the well-known, time-constrained baby-boom generation with consumers who were born during the pre-World War II era and grew up chronologically closer to the Great Depression—in an era when female roles were focused on more traditional forms of household production (raising children, keeping house, planning and shopping for food; Zeithaml 1985). These older consumers are also generally more thrifty (Mason and Bearden 1978; Russell 1993).

Multivariate comparisons of differences between the two age groups were performed on all the measures of SEARCH, all the independent variable sets in the model, reported grocery budget per household member, and weekly savings from specials search.¹⁰ The results show striking differences between the search behaviors of the two groups, with pre-baby boom (older) respondents searching significantly more on all measures.

There are several other differences between the groups, some of which are easily anticipated: older respondents reported greater price knowledge, lower time constraints (fewer work hours), stronger maven tendencies, and greater shopping enjoyment. At the same time, however, they reported significantly greater health and transportation constraints on search. Furthermore, and of greatest interest, older consumers report being *less* budget-constrained, having significantly higher income per household member, and reporting no gains that result from search in the form of lower grocery budgets (adjusted for household size) or greater savings from shopping for specials.

Compared to younger consumers, then, older consumers report more extensive search with less economic need, a behavior that can be explained by lower time constraints (though these are offset to a degree by greater health and transportation constraints), greater knowledge, and greater psychosocial returns to search. We also suggest that a factor underlying the behavior of older consumers is habit borne from more traditional family roles and greater tendencies toward thrift.

Psychosocial returns. Despite discussions that search time may itself provide a unique utility to consumers who enjoy shopping (Kolodinsky 1990; Marmorstein, Grewal, and Rische 1992), our results from the model indicate that economic concerns drive shopping enjoyment. Grewal and Marmorstein (1994) similarly find nonsignificant effects of shopping enjoyment in a larger model of price search intentions. Market mavenism accounted for little incremental variance in the full COMPARE model, yet after we accounted for all other predictors, was a consistently important correlate of specials-related search. This suggests that information about price specials has more significant short-term social value (i.e., is more newsworthy) than does information obtained through the general price search tendency captured in COMPARE (cf. Frenzen and Nakamoto 1993).

⁹When the full model for COMPARE was run with income instead of IHH, the beta for income was not significant ($\beta = -.06$, $t = 1.30$, $p = .19$).

¹⁰This analysis is available on request.

Discussion

In contrast to previous work, we account for a substantial proportion of the variance in reported price search by finding that economic benefits and costs of search (by themselves) generally influence search behavior in the directions we expected. However, we also find that these economic factors do not fully account for price search and, in fact, become less significant when other variables are entered into the model. Additional key correlates of price search include knowledge, habit (captured in the unexpected investment search results and the follow-up comparison of age groups), and social returns (captured in market mavenism).

We originally conceptualized the role of habit in our model through investment search, suggesting that search in the initial stages of the consumer's market experience assist in establishing a shopping routine focused around a primary store, thereby reducing later price search. Instead, we find that consumers who report engaging in an early investment search continue making price comparisons (though they do not necessarily cross-shop for specials), which suggests that their early search patterns become habitual, perhaps part of a shopping persona. In other words, we identify a general habituation of initial shopping behavior, rather than find that investment search contributes to single-store shopping and less search.

Furthermore, we find that market mavenism is strongly related to the search for price specials information, which is timely and has immediate economic value, thereby making it more newsworthy than general price-level information. Simultaneously, we find only a weak association between investment search and specials-related search.

Managerial Implications

The research was motivated in part by the desire to explain why executives in the grocery industry have overestimated how many consumers actively cross-shop in different stores for specials. Our results suggest a reason for this, which on the one hand supports the executives' intuition, yet also identifies a problem. In short, there likely *are* many more consumers who respond to price specials than those who report that they *cherry-pick* (i.e., go from store to store just for price specials; see Mulhern and Padgett 1995). Over 50% of our respondents reported reading the advertising of two or more stores (READ), yet less than 20% reported cherry-picking (SPECIALS). Furthermore, our results for market mavenism suggest that word of mouth is a significant means of communication in the grocery market and increases awareness of price specials to consumers beyond those who actively cross-shop for the specials. Finally, that there are consumers in the market who habitually compare prices (though they may not actively shop for price specials across stores) further contributes to the market's price knowledge.

The problem, however, is the assumption that incremental promotional sales are driven primarily by cross-store shopping when in fact they may be explained as much or more by alert primary shoppers (see also Urbany and Dickson 1995). Although in some higher-priced categories, price specials may motivate cross-store shopping (e.g., disposable diapers; Kumar and Leone 1988), we believe that in most

categories, industry-conventional wisdom exaggerates the traffic-generating capacity of price promotions (cf. Blatberg, Eppen, and Lieberman 1981; Walters and MacKenzie 1988). The implication is that retailers should emphasize the use of price promotion as a defensive tool to retain the store's price image in the minds of primary customers rather than as an offensive tool to attract new customers into the store (which has been its traditional role). A defensive posture has become increasingly important as warehouse clubs, superstores, and mass merchandisers have stolen some primary shoppers from the conventional high-low supermarkets and increased the price sensitivity of the market.

The finding that market mavenism is positively related to search suggests that the store's price image—as well as incremental sales—might be bolstered by regularly offering a few dramatic specials on high-turnover, highly visible items (in categories in which consumers are not likely to make price-quality inferences). A market maven can remember and talk about these few specials to friends much more easily than remembering 20 to 50 specials and passing on information that is less valuable because the specials themselves are less dramatic. We do not suggest that high-low retailers feature only a few deep discount specials, but that they highlight a few dramatic specials among the several hundred they run each week.

That the initial investment search of a shopper that in many cases occurred years ago is related positively to continued price search indicates that the search habit is an enduring consumer behavior (as is the nonsearch habit). Although such consumers may not shop across stores for specials, they likely will maintain a rough awareness of competitive price differentials and may be inclined to talk to others about them. This clearly supports a strategy of maintaining competitive prices (e.g., within 5% of the lowest-priced rival) on the most visible high-volume items in the store.

Implications for Theory and Further Research

There continues to be controversy in the consumer behavior literature regarding how prior knowledge affects search behavior (cf. Fiske et al. 1994). In the grocery market, knowledge and search feed off each another, fueled in part by the fact that each week information about the last week's specials is obsolete (Kujala and Johnson 1993). In addition, the entry of new firms or the opening of new stores in a market often disrupts market price levels. Perceptions of changing market prices may, then, encourage some consumers to make cross-store comparisons that are facilitated by existing knowledge of the market. One important research direction is to examine how actual and perceived information obsolescence influences search behavior (cf. Stigler 1961).

Our study's limitations are its reliance on consumer self-reports of search behavior and its coverage of just one (albeit typical) geographic market. Although price search is measured more directly in this study than in others, there is a continuing need to develop measures that are fine-tuned to the more subtle dimensions of search (e.g., store-switching for particular items). There is a need for shopping-card types of research to examine more formally the profitability of incremental promotional sales to particular types of shoppers

(e.g., the cherry-pickers versus primary-store shopper). Mulhern and Padgett (1995), examining a similar set of issues in the retail home-improvement market, integrate consumer self-reports with actual sales tape data (see also Lichtenstein, Ridgeway, and Netemeyer 1993). Such work is necessary in the retail grocery industry to provide insight into the sources of information that lead to promotional sales, the actual degree of cross-shopping taking place, and the direct impact of promotional purchases on customer and category profitability. Further research might additionally examine the size of cliques within consumer networks and the relative strength of social ties (cf. Frenzen and Nakamoto 1993), which will improve understanding of information transmission through word of mouth. Finally, the habitual price-shopper merits additional research attention, particularly in understanding heterogeneity in the number and types of product categories that he or she regularly compares, as well as whether such consumers become more active price-searchers as new types of competitors emerge in a market.

Appendix

Except for demographics and where noted, all items were responses from mail surveys and were evaluated on a 5-point scale anchored by strongly agree and strongly disagree.

Independent Variables

Economic returns:

- Perceived Price Dispersion (PPD): mean = 3.37, sd = .74, alpha = .82
 1. A cart full of the same groceries bought from each of my local grocery stores will cost about the same (recoded).
 2. Prices of individual items may vary between stores, but overall, there isn't much difference in the prices between (city name) grocery stores (recoded).
 3. Some grocery stores in (city name) have a lot lower prices than others.
 4. The price of meats and produce varies a lot between (city name) grocery stores.
 5. The price of individual items often varies a lot between stores.
- Perceived Budget Constraints (PBC): mean = 2.59, sd = 1.04, alpha = .87
 1. I frequently have problems making ends meet.
 2. My budgeting is always tight.
 3. I often have to spend more money than I have available.
- Income Per Household Member (IHH): mean = 18.02, sd = 14.09, in thousands (telephone survey)

Search costs

- Perceived Time Constraints (PTC): mean = 2.65, sd = .96, Pearson correlation = .52
 1. I am time poor, I never have enough time.
 2. Everything I do is rushed.
- Hours Per Week, Paid Employment (WKHRS): mean 25.43, sd = 20.34 (telephone survey)
- Number of Children Less Than Five Years of Age (NCCS): mean = .25, sd = .58 (telephone survey)

- Perceived Difficulty of Store Comparison (PDC): mean = 2.69, sd = .95, Pearson correlation = .56

1. It is very difficult to compare the prices of grocery stores.
2. It is very difficult to compare the quality of meat and produce between grocery stores.

• Mobility Constraints (single items)

1. I have a lot of energy to do things (recoded) (ENERGY; mean = 2.59, sd = 1.05).
2. My health restricts my activities (HEALTH; mean = 1.84, sd = 1.10).
3. I do not have reliable transportation to get out and about (TRANSP; mean = 1.61, sd = 1.00).
4. I find driving very stressful (DRIVING; mean = 1.98, sd = 1.04).

Human capital

- Market Knowledge: Price (KNOWP): mean = 3.29, sd = .90, alpha = .88

1. I know a lot about (city name) grocery stores.
2. I know which stores have the best prices.
3. I know which stores have the best price specials.

- Market Knowledge: Specialty (KNOWS): mean = 3.63, sd = .92, alpha = .88

1. I know which grocery stores have the best bakery.
2. I know which grocery stores have the best meat department.
3. I know which grocery stores have the best deli.

- Investment Search (IS): mean = 3.14, sd = 1.05, alpha = .82

1. I shopped back and forth between several different stores before choosing where I now do most of my grocery shopping.
2. I compared the prices of different stores before finally deciding where to do most of my grocery shopping.
3. I made an extra effort in the beginning to learn about different stores so as to simplify the grocery shopping I do now.

- Perceived Time Management Skills (PTM): mean = 3.67, sd = .92, Pearson correlation = .63

1. I am very good at organizing and scheduling activities.
2. I am not very good at time management (recoded).

Surrogates

- All from telephone survey:
 Age (AGE): mean = 44.69, sd = 16.11
 Sex (GEN): 1 = female (83%), 0 = male (17%)
 Education (EDU): 1 = at least two years of college (57%), 0 otherwise (43%)

Psychosocial Returns

- Market Mavenism (MM): mean = 3.59, sd = .74, alpha = .89

1. I like introducing new brands and products.
2. I like helping people by providing them with information about many kinds of products.
3. I like it when people ask me for information about products, places to shop, or sales.
4. I like it when someone asks me where to get the best buy on several types of products.
5. I think of myself as a good source of information for other people when it comes to new products or sales.

6. I know a lot of different products, stores, and sales and I like sharing this information.
- Shopping Enjoyment (SE): mean = 3.34, sd = 1.02, alpha = .93
 1. I enjoy grocery shopping.
 2. Grocery shopping is a chore (recoded).
 3. Grocery shopping is boring (recoded).
 4. Grocery shopping is a pain (recoded).
 5. I view grocery shopping in a positive way.

Dependent Variables

- COMPARE: mean = 0.0, sd = 2.56, alpha = .81, after standardization
 1. I compare the prices of different stores.

2. I often compare the prices of fruits and vegetables at two or more grocery stores
 3. (Telephone survey item): How often do you compare the specific prices of grocery stores? Response categories: weekly, monthly, less often, never.
- INDEX (Summed index of the following 0,1 dummy variables from the telephone survey):
 1. READ: regularly reads print ads or fliers to compare prices and/or to check price specials (52%).
 2. DECIDE: decides each week where to shop based upon ads/fliers (32%).
 3. FRIENDS: often talks to friends about price specials before weekly shopping (20%).
 4. SPECIALS: regularly shops the price specials at one store and then the price specials at another store (17%).

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Marketing Controls and Dysfunctional Employee Behaviors: A Test of Traditional and Contingency Theory Postulates

The author examines two different theories—traditional and contingency—of negative employee responses to marketing control systems. Traditional control theory draws on the humanistic perspective to suggest that controls have negative consequences because they limit employee autonomy and signal a lack of trust in employees. Contingency theory, on the other hand, posits that employee response depends on the degree to which the control used fits the job context. The author examines two types of job contexts, namely, task and supervision. Tasks are characterized along two dimensions, namely, performance documentation and procedural knowledge. Supervision is captured by three factors—the degree to which employees perceive that they are allowed to participate, that supervisors are knowledgeable about their performance, and that supervisors are considerate. Using dysfunctional behaviors as the focal negative response, the author finds stronger support for the traditional perspective compared with the contingency perspective.

Marketing organizations typically use two types of formal supervisory controls, namely, process and output controls, to direct the activities and outputs of employees. *Process controls* direct employees by specifying the methods and procedures to be adopted in performing tasks. They, however, do not hold the employees responsible for achieving quantitative output standards. *Output controls*, on the other hand, direct employees by specifying output goals and standards. They leave the choice of methods and procedures to the employees themselves. Although there is little dispute that marketing organizations need these two control systems to operate effectively, recent research suggests that they may cause employees to manipulate data, report invalid data, work against the long-term interest of the organization, and exhibit other dysfunctional behaviors (Jaworski 1988; Jaworski and MacInnis 1989; Merchant 1985).

Two alternative perspectives have been provided to explain why process and output control systems may evoke negative reactions from employees. First, the *traditional* human relations perspective suggests that employees generally react negatively to controls imposed by management because of the outdated assumptions on which the controls are based. Management-enforced controls assume that employees who actually do the work are incapable of acting on the information they generate and will shirk their work if

they are not monitored. Yet, today's workforce is well educated, is capable of assuming responsibility, and expects to contribute to how the business is run (Hammer 1990).

Second, the more modern *contingency* perspective posits that employees' negative reactions to a control system are contingent on several contextual factors, such as the nature of tasks performed and the way supervisors implement controls. For example, it has been suggested that marketing employees react negatively when output control is used for tasks characterized by low *performance documentation* (the degree to which measurements are available to evaluate employee performance) or when process control is used for tasks characterized by low *procedural knowledge* (the degree to which task activities can be defined or to which cause-effect knowledge is clear) (Jaworski and MacInnis 1989).

I examine the two theoretical perspectives and add to the growing control literature in three respects. First, none of the previous control studies have simultaneously examined both theoretical perspectives. By testing both perspectives in the same setting, I examine their relative merits. Second, two different interpretations of the moderating role of task context are investigated. Although Jaworski and MacInnis (1989) indicate that the effect of output control on negative employee reactions may be moderated by availability of performance documents, Hirst (1983) and Imoisili (1989) identify procedural knowledge as the moderating variable for this relationship. In the former study, output control is perceived as complete when performance documents are available for all aspects of performance; in the latter two studies, output control is perceived as complete only when employees know how to change their behaviors when there

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are output deficiencies. Third, the contingency hypotheses are extended to the supervisory context. Supervisors may differ on the degree to which they allow employees to participate in the setting of goals and work procedures, become knowledgeable about the performance measures and procedures used by employees in achieving the control standards, and are considerate and supportive of employees' job efforts to achieve the control standards. I investigate whether employees who perceive supervisors favorably on these dimensions react less negatively to controls than employees who perceive supervisors unfavorably on these dimensions.

In the subsequent section, I present the conceptual model and research propositions. This is followed by information on sample design and analytical results. Finally, I discuss theoretical and managerial implications of the results.

Conceptual Framework

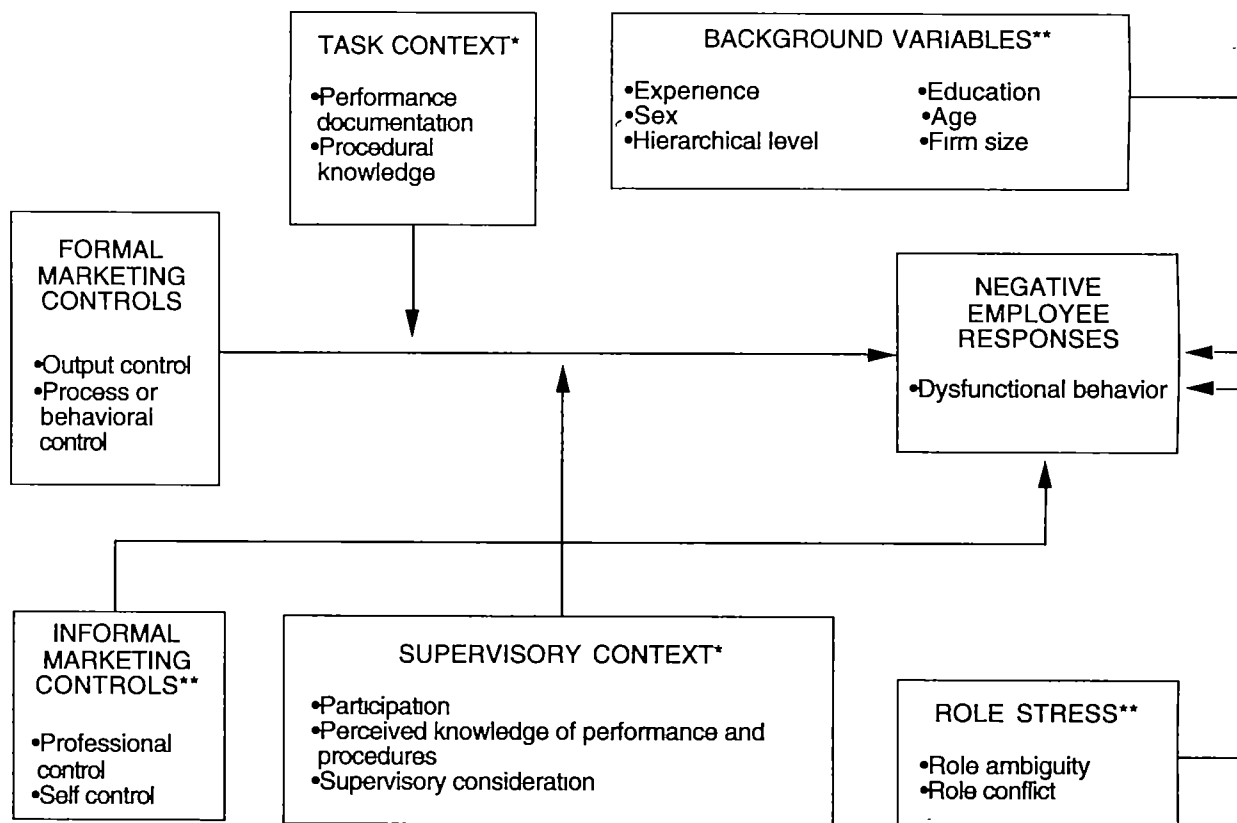
The expected relationships between marketing controls and dysfunctional employee responses are illustrated in Figure 1. Although organizations often use the performance- and goal-oriented output control system and/or the method- and procedure-oriented process control systems as formal controls, they also can use two *informal* types of controls—professional and self controls. *Professional controls* involve

control through peers, whereas *self controls* are based on individual employees taking responsibility for their jobs. Because the primary focus of this study is on output and process controls, the two informal controls are introduced as covariates in the proposed model.

I examine whether output and process controls promote dysfunctional behavior in marketing employees. Dysfunctional behaviors pertain to employee activities that further personal interests but are harmful to long-term organizational performance. Such activities have been identified to come in four forms: gaming, smoothing, focusing, and invalid reporting (Jaworski 1988). *Gaming* occurs when an employee behaves in ways that look good in terms of the control system measures but are dysfunctional for the firm otherwise. *Smoothing* occurs when the employee evens out performance over time. *Focusing* occurs when the employee enhances or degrades performance information through selective communication to supervisors. Finally, *invalid reporting* occurs when the employee deliberately presents inaccurate data to management about both what has been done and what can be done.

I offer two explanations—traditional and contingency—to explain the relationship between controls and dysfunctional employee behaviors. Additionally, I recognize that role ambiguity and role conflict may mediate partially the

FIGURE 1
Relationship Between Marketing Controls and Dysfunctional Employee Behaviors: Hypothesized Model



*Moderator Variables

**Covariates

effects of controls on employee behaviors (Challagalla and Shervani 1996; Rhoads, Singh, and Goodell 1994). Controls provide information relating to role expectations, methods for fulfilling them, and consequences of role performance (Michaels et al. 1988; Teas 1983); they may also ensure that there is greater agreement between supervisors and employees on role expectations (Tanner, Dunn, and Chonko 1993). Because the focus is not on the mediating effects, the study includes the role variables as covariates. Finally, because I utilize a heterogeneous sample, the sample members' characteristics are used as control variables to account for their heterogeneity.

Reaction to Control Systems— Traditional Perspective

The traditional perspective proposes that employees react negatively to formal controls because of the inaccurate assumptions on which they are based. Supervisors believe that controls and close supervision are needed, because (1) employees shirk their work and perform only when they know they are being monitored and (2) employees are incapable of using the information available to them (Hammer 1990). Most employees today, however, are well educated, demand opportunities for meaningful work, and place a premium on personal growth and development. In other words, they may view close supervision as an expression of a lack of trust in their ability to do their jobs (Churchill, Ford, and Walker 1985). Studies show that when there is low trust, employees are likely to conceal data or communicate invalid data (Mellinger 1956; Zand 1972).

Additionally, the information gathered by formal control systems are often used as a basis for evaluating and rewarding employee performance. When this happens, the control process is viewed by employees as a contest in which they must present themselves in the best possible light to get a raise or promotion. To maximize the extrinsic rewards they get, employees may therefore manipulate the information that is presented to their supervisors. Business ethics literature explains that employees engage in unethical, manipulative behaviors because they wish to create the proper impression for their supervisors (Knouse and Giacalone 1992) and further their political future in the organization (Schlenker 1980).

Use of output control, in particular, provides signals to employees that the extent to which they achieve set standards influences their rewards. To maximize rewards, employees may attempt to influence the output control system in four ways. First, they may construe control system inputs to obtain lower, achievable output standards. For example, salespeople may underreport market potential to obtain lower sales targets. Second, employees may use suboptimal task strategies, thereby focusing on areas that contribute to short-term success. For example, salespeople may concentrate their efforts on existing accounts at the expense of developing new prospects. Third, employees may smooth performance results to ensure less difficult goals for the future, as well as present a positive picture of the variability in performance. Fourth, though output goals may be carefully set,

unexpected conditions may make accomplishing them difficult, but the employee concerned might get blamed for the poor performance. In retaliation, employees may distort the mechanism that tells them they are not as good as they ought to be. In a recent issue of *Business Week*, for example, it was reported that a company's sales force faked sales and shipped products that were never ordered to achieve output goals at all costs (Barnathan, 1995).

Use of process control imposes strict guidelines on which activities are to be performed and how they should be performed. Monitoring and correcting actions in an explicit manner is likely to reduce employees' sense of autonomy and self-control (Churchill, Ford, and Walker 1985; John 1984). Employees may also feel they are not being trusted; in a reciprocal sense, they may believe that they do not need to trust the supervisor or the control system. The debilitating effect that such feelings have on the intrinsic motivation of employees may result in attitudes that are defensive and behaviors that are dysfunctional. According to John (1984, p. 280), employees subject to bureaucratic structuring may feel frustrated and involve themselves in "aggressive retaliatory behavior that is characteristically opportunistic." In contrast, when employees are trusted through low use of process control, their energies can be diverted from nonproductive defensive to more productive constructive behaviors (Porter, Lawler, and Hackman 1975).

H₁: The greater the use of output control, the greater the dysfunctional behaviors.

H₂: The greater the use of process control, the greater the dysfunctional behaviors

Reaction to Control Systems— Contingency Perspective

I use two types of contingent variables, task and supervisory characteristics, and develop hypotheses about each variable's role in moderating the effects of controls on employee's involvement in dysfunctional behaviors. I argue that these factors affect employee perceptions of the accuracy, completeness, and fairness of implementation of controls, which in turn affect how the employees respond to the controls.

Task Context

In contrast to the traditional perspective, which uses human relations theory to suggest that employees reward supervisors (by engaging less in dysfunctional behaviors) who do not rely on controls for achieving organizational goals, the task contingency perspective proposes that employees reward supervisors when they use controls that are appropriate for the task condition. Tasks have been characterized along two dimensions: performance documentation and procedural knowledge (Ouchi 1979; Jaworski and MacInnis 1989). When performance documentation is not fully available, standards may not exist for all performance areas, and some areas are more measurable than others. However, the employee may be rewarded on the basis of this incomplete or underdetermined measurement system (Anderson and Chambers 1985). Use of output control in this situation may be perceived as unfair and can provide the incentive to em-

employees to rationalize acts that make them look favorable within the partial measurement system. On the other hand, when performance documentation is fully available, employees may not only understand better how their supervisors arrive at reward decisions, but there also may be greater performance congruence, whereby employees' self-evaluations of their performance are congruent with supervisor's evaluations. The resulting fairness perceptions and role clarity can result in fewer dysfunctional behaviors.

Similar logic can be extended to argue that procedural knowledge moderates the relationship between process control and negative employee responses. When procedural knowledge is high, every aspect of employees' jobs is clear (Sujan, Sujan, and Weitz 1988). Supervisors can therefore specify appropriate scripts that employees might use to achieve their goals. Employees, in turn, realize that supervisors are recommending appropriate procedures and that these cover the complete range of their job activities. When procedural knowledge is low, (1) cause-effect knowledge for the entire set of employees' activities is not available; (2) supervisors tend to concentrate their attention on areas for which cause-effect knowledge is clear and ignore other areas for which the opposite is true; and (3) if supervisors attempt to specify procedures for areas that do not have clear cause-effect knowledge, employees may perceive that they have the right to question the procedures suggested by their supervisors. The authority structure may, however, leave them little latitude for correcting any perceived problems with procedures. In retaliation, employees may take advantage of the opportunities provided by lower task knowledge to behave in a dysfunctional manner. Thus,

H₃: Output controls are more likely to increase dysfunctional behavior when performance documentation is low than when it is high.

H₄: Process controls are more likely to increase dysfunctional behavior when procedural knowledge is low than when it is high.

The previous arguments are based on the notion that performance documentation availability and high procedural knowledge enable output controls and process controls, respectively, to be viewed as complete and accurate. Hirst (1981, 1983) offers a different set of arguments for explaining the moderating role of these task factors. According to Hirst, a control system should not only show that something is going wrong, but it also should point out why the problem happened and what is necessary to correct the situation. For example, output controls monitor gaps in performance and inform employees about the gaps. They, however, do not inform employees about how to overcome the deficiencies. If the relevant procedures are not pointed out by the control system, employees must use self-help. Hirst suggests that self-help is possible only when procedural knowledge is high. Only under this situation can employees perceive output control as complete and reciprocate with lower negative responses. On the other hand, when procedural knowledge is low, employees may perceive themselves as having less than full control over performance outcomes (Imoisili 1989). Using output control in a rigid manner in such situations may elicit dysfunctional responses from employees,

because output control assumes that most of the factors which have an effect on task outcomes are within the control of the managers being evaluated (Ansari 1979).

Although Hirst (1981, 1983) does not discuss process controls, we can use a similar rationale and suggest that process controls result in lower negative responses when performance documentation is high than when it is low. Employees and supervisors can assess whether the procedures used are appropriate in fulfilling the output goals only if performance measures are available. Thus,

H₅: Output controls are more likely to increase dysfunctional behavior when procedural knowledge is low than when it is high.

H₆: Process controls are more likely to increase dysfunctional behavior when performance documentation is low than when it is high.

Supervisory Context

The behavior of the supervisor can make a great deal of difference in how employees react to controls. Employees who have an opportunity to participate in setting goals and the procedures for achieving them, whose supervisors make an effort to know how their jobs should be performed and what performance measures should be used, and whose supervisors are considerate may have higher levels of satisfaction with the control system and exhibit lower minipathologies than those employees denied such things.

Participation. The traditional perspective assumes that supervisors are active in informing the employees of their goals and performance and that subordinates are passive in finding out about their goals and performance (Porter, Lawler, and Hackman 1975). McGregor (1960) was the first to suggest that subordinates should take an active role in establishing performance goals (an integral part of output control) and deciding the means by which the goals can be achieved (an integral part of process control).

When performance goals are set with participation, employees gain knowledge about why the goals are set where they are (Lawler and Rhode 1976). This knowledge is necessary for employees to take ownership of and be more committed to achieving the set goals (Vroom 1964). The greater the goal commitment, the lower the defensiveness of employees (Silber 1985) and, thus, the lower the level of dysfunctional behavior. Moreover, because of employee efforts to ensure that the goals set are only moderately difficult, they are willing to share any private information they have. By doing so, however, they automatically reduce their opportunities for dysfunctional behavior.

When employees participate in specifying methods and procedures, the high level of supervisor-employee communication associated with participation not only enables employees to obtain a clearer picture of what is involved in reaching a behavioral goal, but it also enables supervisors to have the same script concerning the employee's work as do the employees. When this happens, there is less need for supervisors to monitor employees closely, thereby keeping intact employees' feelings of being "experts" in their jobs. Employees also believe that they have played an integral role in goal achievement, thereby improving their attitudes

and responses toward the process control system. Additionally, participation in the specification of procedures may make the process of arriving at procedures appear more just (Brett and Goldberg 1983).

H₇: Output controls are more likely to increase dysfunctional behavior when participation is low than when it is high.

H₈: Process controls are more likely to increase dysfunctional behavior when participation is low than when it is high.

Knowledge of Job. Because control-system information is typically used for making reward decisions, it is natural that employees prefer that the system and implementer assess their work accurately. The validity and accuracy of the assessment increases with the perceived knowledge level of the supervisor (Weitz, Sujana, and Sujana 1982). Research shows that supervisors are often unable or unwilling to obtain all of the information that would be relevant for evaluation (Wegner and Vallacher 1977). Being unwilling to obtain all the information is a characteristic that is more common among less knowledgeable supervisors who believe that certain behaviors are not relevant for the evaluation. On the other hand, knowledgeable supervisors attend to multiple dimensions of employees' behaviors, make distinctions regarding the degree within dimensions, and thus make the evaluation process more accurate (Schneier 1977).

When supervisors are perceived to have a lower level of knowledge of both performance and procedures, employees can trust neither the supervisor nor the control system. Employees do not like to be measured by systems that they cannot trust and hence show resistance to them. There also are greater chances for disagreements between supervisors and subordinates over the way in which performance is evaluated. In particular, the unfairness of the situation in which the supervisor has placed employees provides employees with the rationale for feeding false data.

Finally, when supervisors have full knowledge of employees' behaviors and outputs, employees have less opportunity to falsify data. Even if employees attempt to introduce bias in information, supervisors may be expected to have "the ability (because they are likely to know what can and cannot be achieved as well as what has been achieved) and the desire (because of their use of such information to evaluate subordinate performance) to eliminate bias" (Hirst 1981, p. 778).

H₉: Output controls are more likely to increase dysfunctional behavior when perceived supervisory knowledge is low than when it is high.

H₁₀: Process controls are more likely to increase dysfunctional behavior when perceived supervisory knowledge is low than when it is high.

Consideration. Consideration refers to the degree to which managers develop a work climate of psychological support, helpfulness, friendliness, and mutual trust and respect (Johnston et al. 1990). Consideration does not mean that supervisors cater to employees' needs on a *carte blanche* basis. It is simply the degree to which supervisors recognize employees as individuals and treat them with dignity and respect. When managers are inconsiderate, they fail to perceive employees as having personal needs and goals.

They use restrictions and threats of punishment to control employee behavior. It is no surprise that such supervisors increase employees' feelings of hostility toward the control systems being administered. Recognizing supervisory consideration as a potential moderating variable, Otley (1978, p. 143) suggests that an inconsiderate supervisor who emphasizes output control is primarily "punitive" in his or her ethos and may have a "net result that is counterproductive."

On the other hand, high supervisory consideration lessens the tendency for controls to induce manipulative behaviors. A considerate manager is less concerned with pressuring employees to achieve goals than with maximizing the achievement of their potential. A considerate manager does not immediately conclude that an employee is at fault for performance gaps, but attempts to develop supportive work conditions that can reduce such gaps. Katz and Kahn (1978) suggest that because the supervisor is the employee's primary link with his or her company, considerate behavior from the supervisor could foster identification with the organization. From a control-system perspective, this identification translates into lower employee dysfunctional behaviors.

H₁₁: Output controls are more likely to increase dysfunctional behavior when perceived supervisory consideration is low than when it is high.

H₁₂: Process controls are more likely to increase dysfunctional behavior when perceived supervisory consideration is low than when it is high.

Research Method

Sample

The sample was selected from U.S.-based members of the American Marketing Association (AMA). The 1992 AMA membership directory reports over 20,000 members. From this list, 1207 members were selected randomly for participation in the study. The selection was done in such a way that the members selected performed different marketing functions and occupied different levels of the marketing department. This sampling design was adopted because the key constructs measured must evidence substantial variation to provide a valid test of the contingency hypotheses proposed in the study. Approximately 48 of the selected members could not be contacted, because they had either moved or were no longer with their company. After the first mailing, all 1159 sample members were mailed the questionnaire a second time. In all, 352 responses were received for a response rate of 30.4%. After excluding 34 unusable responses, the sample size was reduced to 318.¹

The profile of the responding sample is reported in Table 1. The sample covers a wide variety of marketing practitioners and differs in the type of function performed and the

¹The responses of 29 high-level executives (e.g., chief executive officers, presidents, and directors) were removed, because they are the "makers of" rather than "responders to" control systems in organizations. Three responses contained missing values. Two members of the sample were removed because of ambiguities in their response to key study constructs.

organizational level. Examples of position titles of respondents include product manager, marketing manager, sales manager, marketing research analyst, marketing planning and development officers, and sales and marketing representatives. Approximately 72.4% of the respondents are between 25 and 39 years of age, and a majority of the sample has a college degree. The sample is equally divided between men and women. The median experience is five years with the current organization and ten years overall. The median value for the size of the respondent's organization is 400 employees and for the organization's sales is \$103 million. Except for the gender distribution, the profile of the responding sample is representative of the AMA member base.

Measurement Scales

Controls. The study used scales suggested by Jaworski and MacInnis (1989) for measuring output and process controls. Output control was measured with five items that capture the extent to which the supervisor specifies, monitors, evaluates, provides feedback on, and bases rewards on the performance goals achieved. The process control scale includes four items that refer to the extent to which the supervisor monitors, evaluates, modifies, and provides feedback on the procedures used for achieving performance goals. Cronbach's alpha for the two scales are .85 and .85, respectively.

As was previously noted, the study includes two types of informal controls—self and professional. Self control is the degree to which the employee assumes responsibility for job activities. Five items are used to measure this construct. After omitting one item, Cronbach's alpha for this scale is .70. Professional control measures the degree of interaction, feedback, and evaluation among peers in the organization. The five-item scale for this construct has a Cronbach's alpha of .85.

Dysfunctional behavior. Dysfunctional behavior is measured by six items that capture a variety of behaviors, such as smoothing, gaming, focusing, and invalid reporting. This scale was proposed and used by Jaworski and MacInnis (1989). Overall, this measure is found to have good reliability ($\alpha = .78$).

Task characteristics. Two task characteristics are examined, namely, performance documentation and procedural knowledge. The performance-documentation variable is operationalized as "the extent to which marketing superiors have available forms of documentation to assess a marketing employee's performance" (Jaworski and MacInnis 1989, p. 408). The procedural-knowledge variable refers to the degree to which cause-effect relations are known and is captured by four items that assess the degree to which an underlying body of knowledge or supervisor-specified procedures and practices exist to guide employees in their work. Cronbach's alpha reliability values for these two scales are .85 and .77, respectively.

Supervisory factors. Participation is measured with three items that reflect employee perceptions of the extent of influence they have on their supervisors regarding their work.

TABLE 1
Sample Characteristics

Employee Characteristics	
Age (in years)	%
Less than 25	3.8
25-39	72.4
40-55	21.0
56-70	2.8
Sex	%
Female	49.1
Male	50.9
Education Level	%
High School diploma	32.3
Bachelor's degree	56.6
Master's degree	8.7
Doctorate	2.2
Total Experience (years)	
1-5	16.5
6-10	34.8
11-15	18.3
16-20	15.2
> 20	15.2
Experience with Current Organization (years)	
1-5	57.2
6-10	23.0
11-15	10.4
16-20	4.9
> 20	3.5
Position (title)	%
Product manager	10.1
Marketing manager	9.8
General manager	11.2
Marketing analyst	9.1
Planning and development	4.5
Service	1.3
Sales/marketing representative	48.6
Other	5.6
Organizational Characteristics	
Annual Sales (millions of \$)	
1-9	17.7
10-24	13.8
25-49	7.9
50-99	7.2
100-249	13.8
250-499	9.2
500-999	8.0
> 999	22.4
Number of Employees	
1-9	3.0
10-19	3.3
20-49	8.2
50-99	7.9
100-249	14.5
250-499	17.4
500-999	6.2
> 999	39.5

Sample Size $n = 318$

Supervisory knowledge of performance is measured by employees' perceptions of the degree to which their supervisors can specify performance objectives and assess their performance, as well as by the supervisor's degree of knowledge and familiarity with their jobs. Consideration is measured by employee perceptions of the degree to which supervisors develop a work climate of psychological support, helpfulness, friendliness, and mutual trust and respect (Johnston et al. 1990). Cronbach's alpha values for these three supervisory factors are .85, .93, and .89, respectively.

Role stress. Role ambiguity and conflict are measured with six- and eight-item scales, respectively, that Rizzo, House, and Lirtzman (1970) developed. Two items measuring role ambiguity and six items measuring role conflict were dropped because of low correlation with their scales. The estimated reliabilities for the two refined scales are .90 for role ambiguity and .74 for role conflict.

Background variables. Information was obtained from respondents on their age, education, position title, sex, years of experience, and size of the firm in which they were employed. In addition, the hierarchical level of each respondent was evaluated on the basis of information regarding the respondent's position title, years of experience, education, and income.

The items comprising each of the study constructs are reported in the Appendix. The correlations among the study constructs, along with descriptive statistics, are reported in Table 2.

Analyses

The main effects hypothesized in Figure 1 were analyzed with ordinary least squares regression procedures.² The predictor variables included formal and informal control systems, role stress, and task and supervisory factors. Respondent and firm characteristics were included as additional predictors to ensure that background factors did not interfere with the interpretability of the study's findings.

The moderator effects hypothesized in H₃ through H₁₂ were analyzed with a moderated regression procedure. In this procedure, the overall significance of the model, including all interaction terms, is evaluated before progressively moving downward to isolate individual sources of significant effects. For example, if Z₁ and Z₂ are two moderators, then the following hierarchical multiple regression models are run:

$$(1) \quad Y = b_{10} + b_{11} X + b_{12} Z_1 + b_{13} Z_2 + b_{14} XZ_1 + b_{15} XZ_2 + e,$$

$$(2) \quad Y = b_{20} + b_{21} X + b_{22} Z_1 + b_{23} Z_2 + e,$$

$$(3) \quad Y = b_{30} + b_{31} X + b_{32} Z_1 + b_{33} Z_2 + b_{34} XZ_1 + e, \text{ and}$$

$$(4) \quad Y = b_{40} + b_{41} X + b_{42} Z_1 + b_{43} Z_2 + b_{44} XZ_2 + e.$$

A significant difference in R² between Model 1 and Model 2 indicates the presence of moderator effects. To isolate individual moderator effects, the R² of Model 2 is compared with that of Model 3 (to test the significance of XZ₁) and of Model 4 (to test the significance of XZ₂). If the comparison between Model 1 and Model 2 is nonsignificant, the individual moderator effects are not interpreted.

The simultaneous analysis of the main-effect terms and the interactions in models 1 through 4 results in the distortion of the partial coefficients for the main-effect terms, because they are generally correlated with the interaction terms (Cohen and Cohen 1983). I therefore use the residual-centering approach Lance (1988) describes, which (1) reduces multicollinearity among predictors, (2) separates interaction and main effects, and (3) yields a regression coefficient for the residual cross-product term that is directly interpretable as the effect of the interaction term on the dependent variable.

Results

Controls and Dysfunctional Behavior: Traditional Perspective

The first set of hypotheses, H₁ and H₂, addresses the relationships between controls and dysfunctional behavior. The main-effects results presented in Table 3 show that use of both output control ($b = .130$; $t = 2.46$; $p = .015$)³ and process control ($b = .138$; $t = 2.92$; $p = .006$) are positively associated with dysfunctional behavior, thus supporting H₁ and H₂. This result is consistent with the traditional per-

²Before the data was analyzed, a further test of the unidimensionality of the measurement scales was performed with confirmatory factor analysis. The confirmatory assessment was obtained from four sets of analyses: (1) task variables—performance documentation and procedural knowledge; (2) controls—output, process, self, and professional; (3) supervisory factors—participation, knowledge of performance and procedures, and consideration; and (4) role stress variables. Results indicate that the measures of the different study variables tap distinct dimensions.

³This result for output control is interesting because its pairwise correlation with dysfunctional behavior is nonsignificant. One possible explanation for this finding is provided by the concept of suppressor effects (Cohen and Cohen 1983). As Cohen and Cohen (1983) recommend, a hierarchical multiple regression procedure is used to identify the suppressor variables. This procedure involves using output control as the only regressor in a reduced model and adding each of the antecedents in a full model. It was found that the regression coefficient of output control became significant when each of the following variables were added to the model: self control, professional control, role ambiguity, role conflict, participation, consideration, and supervisor's knowledge of procedures and outputs. This suggests that removing the portion of the variance in output control associated with each of the previous predictor variables increases the association of output control with dysfunctional behavior.

TABLE 2
Descriptive Statistics of Model Variables

Variable ^a	C	PC	SC	PRC	RA	RC	PD	PK	PART	KNOW	CON	AGE	SEX	EDU	UN	EXP	SIZE	DB	Mean	sd	Cron- bach's Alpha
1 Output Control (OC)	1.0																		3.24	1.01	.85
2 Process Control (PC)	.54 ^b	1.0																	2.79	.95	.85
3 Self Control (SC)	.17 ^c	.13 ^c	1.0																3.73	.69	.70
4 Professional Control (PRC)	.23 ^b	.26 ^b	.26 ^b	1.0															3.69	.94	.85
5 Role Ambiguity (RA)	-.41 ^b	-.30 ^b	-.26 ^b	-.38 ^b	1.0														2.22	1.01	.90
6 Role Conflict (RC)	-.26 ^b	-.22 ^b	-.09 ^c	-.26 ^b	.37 ^b	1.0													3.36	1.06	.74
7 Performance Documentation (PD)	.57 ^b	.41 ^b	.21 ^b	.24 ^b	-.46 ^b	-.19 ^b	1.0												2.78	1.07	.85
8 Procedural Knowledge (PK)	.26 ^b	.37 ^b	.09	.28 ^b	-.32 ^b	-.30 ^b	.42 ^b	1.0											2.41	.92	.77
9 Participation (PART)	.28 ^b	.13 ^c	.31 ^b	.47 ^b	-.52 ^b	-.19 ^b	.28 ^b	.20 ^b	1.0										3.75	.89	.85
10 Knowledge (KNOW)	.49 ^b	.38 ^b	.25 ^b	.43 ^b	-.43 ^b	-.37 ^b	.38 ^b	.36 ^b	.36 ^b	1.0									3.36	1.10	.93
11 Consideration (CON)	.28 ^b	.20 ^b	.28 ^b	.39 ^b	-.42 ^b	-.23 ^b	.28 ^b	.19 ^b	.55 ^b	.50 ^b	1.0								3.42	1.05	.89
12 Age (AGE)	.07	-.01	.10	-.02	-.07	-.02	.09	.04	.07	-.04	-.03	1.0							NA ^d	NA	—
13 Sex (SEX)	.02	-.10	-.08	.03	.04	.06	-.05	-.09	-.04	.03	.00	-.30 ^b	1.0						NA	NA	—
14 Education (EDU)	.02	.04	.13 ^c	.12 ^c	-.16 ^b	-.12 ^c	.15 ^b	.19 ^b	.07	.16 ^b	.10	.02	-.06	1.0					NA	NA	—
15 Hierarchical Level Upper/Middle (U/M)	-.05	-.15	-.01	-.06	.11 ^c	.14 ^c	-.06	-.05	.06	-.15 ^b	-.11	.07	-.03	-.13 ^c	1.0				NA	NA	—
16 Experience (EXP)	-.04	-.05	.03	-.03	-.03	.04	.10	-.04	.01	-.04	-.10	.48 ^b	-.34 ^b	.12 ^c	.03	1.0			6.82	5.74	—
17 Firm Size (SIZE)	.06	.14 ^c	-.03	-.06	-.07	-.05	.16 ^b	.16 ^b	-.06	.08	-.03	.03	-.03	.15 ^b	-.08	-.02	1.0		NA	NA	—
18 Dysfunctional Behavior (DB)	.06	.16 ^b	-.28 ^b	-.20 ^b	-.13 ^c	.17 ^b	-.02	-.05	-.28 ^b	-.16 ^b	-.26 ^b	-.13 ^c	-.09	-.07	-.13 ^c	-.05	-.03	1.0	2.45	.75	.78

^aItems comprising variables 1–11 and 18 are measured on 5-point interval scales with 1 and 5 representing the low and high ends of the range of variable values.

^b $p < .01$

^c $p < .05$.

^dNA = Not appropriate.

Table 3
Controls and Dysfunctional Behavior: Main Effects Model

Predictor Variable	Unstandardized OLS ^a Regression Coefficient ^b	Standard Error	t-Value	p
CONTROLS				
Output control	.130	.053	2.46	.015
Process control	.138	.047	2.92	.006
Self control	-.233	.057	-4.05	.000
Professional control	-.045	.048	-.93	ns ^c
ROLE STRESS				
Role ambiguity	-.015	.049	-.30	ns
Role conflict	.115	.040	2.90	.004
TASK CONTEXT				
Performance documentation	.005	.050	.11	ns
Procedural knowledge	-.012	.044	-.28	ns
SUPERVISORY CONTEXT				
Participation	-.087	.051	-1.71	.089
Knowledge	-.057	.051	-1.12	ns
Consideration	-.105	.048	-2.18	.030
BACKGROUND FACTORS				
Age ^b	-.192	.070	-2.74	.007
Sex	-.220	.078	-2.81	.005
Middle-level manager	-.188	.077	-2.45	.015
R ² .268				
Sample size 318				

^aOLS = ordinary least squares.

^bThree background variables—education, experience, and firm size—that were nonsignificant are not included.

^cns = nonsignificant t-value.

spective that employees generally react negatively to formal controls.⁴

Moderating Effects of Task Factors

The moderator effects are tested with moderated regression analysis. With regards to H₃ and H₄, the R² for the full model (main effects + covariate effects + interaction effects) is .281 (d.f. = 16,301). When the interaction terms—output control*performance documentation (OC*PD) and process control*procedural knowledge (PC*PK)—are omitted, the R² square for the reduced model falls to .268. The difference in R² between the two models yields a step-down

F-value of 2.74 ($p < .035$). The test of individual interaction terms indicates that the PC*PK interaction term is significant ($b = -.083$; $t = -2.18$; $p = .015$), whereas the OC*PD interaction term is nonsignificant ($b = -.011$; $t = -.27$; $p = .40$). It appears that availability of performance documentation does not alter the relationship between output control and dysfunctional behavior and thus does not support H₃. However, use of process control is associated with lower dysfunctional behavior when procedural knowledge is high than when it is low, as was hypothesized in H₄.

A similar analysis was conducted to test H₅ and H₆. The decrease (.02) in R² resulting from dropping the interaction terms OC*PK and PC*PD is significant at the $p < .02$ level. A test of the significance of individual terms indicates that only the OC*PK term is significant ($b = -.114$; $t = -2.95$; $p < .002$). These results suggest that availability of performance documents does not alter the relationship between process control and dysfunctional behavior and thus does not support H₆. However, use of output control is associated with lower dysfunctional behavior when procedural knowledge is high than when it is low, which supports H₅.

These results indicate that procedural knowledge mitigates the effects of controls on employees' dysfunctional behaviors. To illustrate this, the significant interaction results are expressed in the form of linear equations:

⁴Because this study is the first to incorporate a comprehensive set of predictors of employees' dysfunctional behaviors from different domains (e.g., task, supervisory, role, individual), an examination of their significance may prove valuable. First, age and sex are negatively associated with dysfunctional behavior. Older employees are less likely to be involved in dysfunctional behaviors than younger employees; and female employees are less likely to show such behaviors than male employees. Second, mid- to upper-level managers show lower dysfunctional behaviors than those at the lower levels of management. Third, employees who are given the opportunity to exercise a greater degree of self control show lower dysfunctional behavior. Fourth, the nature of the task performed does not influence employees' dysfunctional behaviors. Finally, among the supervisory factors, consideration shown by supervisors is associated with lower dysfunctional behaviors.

$$(5) \quad DB = (.141 - .114 PK) OC + (-.013 PK) + K;$$

$$(6) \quad DB = (.138 - .083 PK) PC + (-.011 PK) + K,$$

where

DB = dysfunctional behavior,

OC = output control,

PC = process control, and

PK = procedural knowledge.

Equations 5 and 6 can be viewed as a family of equations, in which each different value assigned to PK defines a different slope for the control variables and a different intercept (Cohen and Cohen 1983). Two questions evaluated in this context include (1) do the slopes of the family of equations differ from each other? and (2) for a specified value of PK, is the regression of DB on OC or PC significantly different from zero? These questions are evaluated using procedures specified by Cohen and Cohen (1983). The significance of the interaction coefficients indicates that the regression of DB on OC or PC varies across the range of PK. The analysis pertaining to the second question is reported in Table 4 and Figure 2. It can be seen that both OC and PC have significant positive (but decreasing) effects on DB when PK is between -2 and 0, but they have no effect when PK is above zero.⁵

Moderating Effects of Supervisory Factors

A similar analytical strategy to the previous one is used to test the moderating effects of the three supervisory factors. The findings indicate that the supervisory factors do not influence the relationship between controls and employee involvement in dysfunctional behaviors. The decrease in R^2 observed by dropping the six interaction terms (corresponding to the two controls times the three supervisory variables) was not statistically significant. Thus, there is no support for H_7 through H_{12} .

Discussion

Theoretical Implications

A major purpose of this study is to test two theories of dysfunctional employee response to controls—the traditional theory stipulating that marketing employees generally react with dysfunctional behaviors to controls and the contingency theory stipulating that marketing employee involvement in such behaviors is dependent on contextual factors.

⁵The slope coefficient is obtained by substituting appropriate values of procedural knowledge, PK (range: -2 to + 2) in equations 5 and 6. For example, the slope of OC in Equation 5 when PK = -2 is .369. The standard error of this slope is given by the following equation

$$s(OC) = [s_{11} + 2Zs_{13} + Z^2s_{33}]^{.5},$$

where s_{11} and s_{33} are the variances of the OC and PK regression coefficients, s_{13} is the covariance between OC and PK, and Z is the number of standard deviations of PK away from its mean (and equal to -2 in the previous example). The slope divided by the standard error yields a t-value for each of the regression lines with $(n - k - 1)$ degrees of freedom, where k is the number of predictors

Overall, the findings provide greater support for the traditional theory of control. Both main effect hypotheses were supported. Of ten contingency situations (corresponding to H_3 through H_{12}), only two were supported. In other words, the traditional theory was upheld in the remaining eight situations. Specifically, the moderator effects hypothesized for one task condition—procedural knowledge—received support, whereas the effects hypothesized for the other task condition—performance documentation—were not supported. Additionally, none of the supervisory moderator effects hypothesized were supported.

Traditional theory of control. Results show that both output and process controls are associated positively with dysfunctional behaviors. It appears that marketing employees are threatened by controls to such a degree that they believe they should take actions to serve their self-interest, but which may not be in the best interest of their organizations. The threat, in the case of output control, comes from the pressure exerted on employees to achieve set goals; this pressure is magnified when unexpected conditions make accomplishing the goals difficult. And the employee concerned is blamed and punished (through lower rewards) for the poor performance. As pressure increases, employees may attempt to relieve the pressure by undertaking dysfunctional actions (Hirst 1981). Employees may rationalize that because output control transfers the risks of goal achievement to them and does not hold management responsible for providing direction when things are not going well, they have the right to engage in self-serving actions. Using cognitive dissonance theory, Festinger (1957) describes such actions as attempts to rationalize failure through cognitive distortion of negative consequences.

Employees may feel threatened by process control, because it can deprive them of job discretion and flexibility and raise perceptions that they are not being trusted. Moreover, the reward decision from process control measures is likely to be subject to the personal biases of supervisors, because supervisory evaluations of how employees perform tasks are typically subjective (Anderson and Oliver 1987; Lawler and Rhode 1976). Not surprisingly, Challagalla and Shervani (1996) observe that overreliance on activity controls lowers employees' satisfaction with their supervisors.

It should be noted that the effects found for process control are at odds with stipulations made by several researchers (Anderson and Oliver 1987; Cravens et al. 1993; Oliver and Anderson 1994) that the more a control system is behavior-based, the more an employee is willing to accept direction and exhibit higher intrinsic motivation (and thus exhibit less dysfunctional behaviors). According to these researchers, greater willingness to accept direction and higher intrinsic motivation are likely, because process control frees employees from short-term pressures, nurtures them, and rewards them for following desired behaviors. My results raise the issue that these advantages may be insufficient to override the disadvantages associated with close monitoring and control. An interesting future research direction may be to explore if process control can simultaneously lead to the positive consequences specified in these studies, as well as such negative consequences as the ones examined here.

Table 4
Controls and Dysfunctional Behavior: Contingency Models^a

	Contingent Variable					
	Task Context					
	Jaworski and MacInnis's (1989) Model			Hirst's (1981) Model		
	b	Standard Error	t	b	Standard Error	t
R ² (full model)	.281			.288		
Decrease in R ²	.013			.020		
Significance	<i>p</i> < .035 ^b			<i>p</i> < .015 ^b		
Parameter Estimates						
Output control * Performance documentation	-.011	.039	ns			
Process control * Procedural knowledge	-.083	.038	-2.18**			
Output control * Procedural knowledge (PK)				-.114	.039	-2.95*
Process control * Performance documentation				.044	.040	ns
Slopes, Standard Errors and T-Tests of Family of Equations (at Standard Values of PK)						
	b ^d	Standard Error	t	b ^e	Standard Error	t
PK = -2	.306	.108**	2.83*	.369	.096 ^f	3.83*
PK = -1	.222	.071	3.13*	.255	.064	3.97*
PK = 0	.138	.047	2.93*	.141	.053	2.65*
PK = 1	.054	.058	0.94	.027	.073	0.37
PK = 2	-.030	.091	-0.33	-.087	.108	-0.81
Supervisory Context ^c						
						.294
						.026
						ns***

^aThe main effects values are not reported for the full model. They are consistent with the values in Table 3.

^bOne-tailed test of significance.

^cThe parameter estimates for the six interaction terms are not reported because of the nonsignificance of the R² difference between the full and reduced models.

^dSlope coefficient for process control at different values of procedural knowledge (from Equation 6).

^eSlope coefficient for output control at different values of procedural knowledge (from Equation 5).

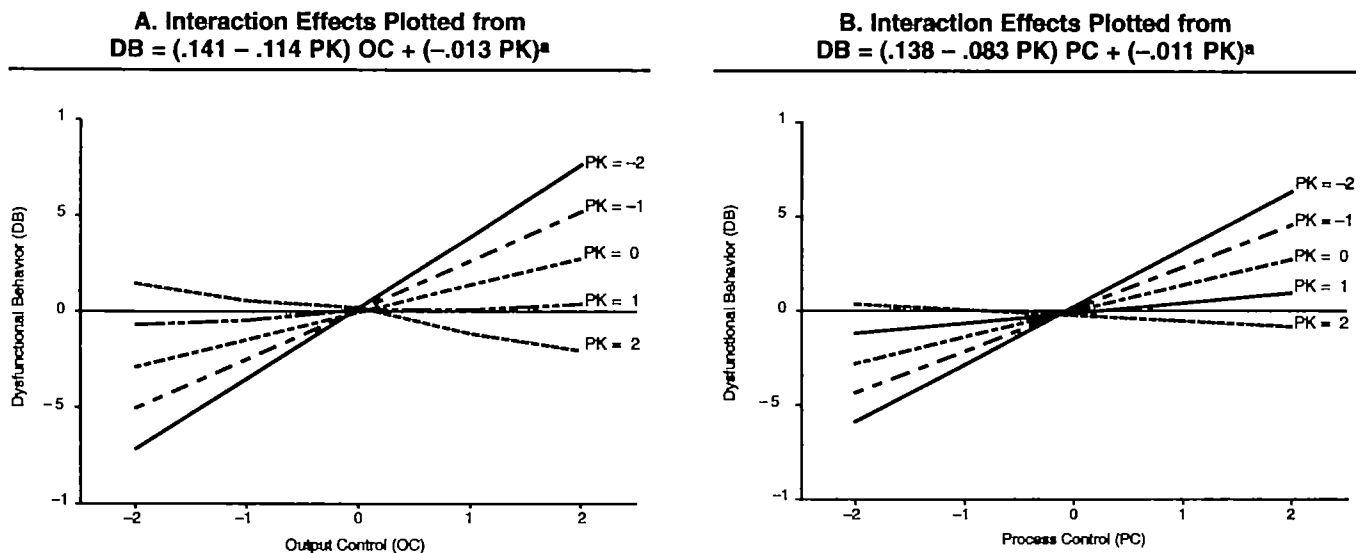
^fStandard error of the slope coefficient for each equation (see footnote 5).

* $p < .01$

** $p < .05$.

***ns = not significant

FIGURE 2
Predicted Values of Dysfunctional Behavior



^aPK = Procedural Knowledge.

Another potential research direction pertains to the evaluation of intermediate effects between controls and dysfunctional behaviors. For example, in the case of process control, the intermediate effects include loss of flexibility and discretion and negative perceptions of fairness and trust. The intermediate variables relevant for output control include felt pressure, transfer of risks to the employee, effects of extraneous factors, and perceived lack of supervisory direction.

Contingency theory of control: Implications for moderator variables. Performance documentation: Performance documentation availability did not moderate the main effects of output and process controls. Jaworski and MacInnis (1989) suggest that when performance documentation is available, control systems have the capacity to capture performance measures more completely and, thus, contribute to lower dysfunctional behavior. The results do not support this argument. What matters to employees may be not so much the availability of performance documents, but the accuracy of and ability to influence the measures included in those documents (Lawler and Rhode 1976). Additionally, whether the supervisor is using these measures to arrive at fair reward decisions also may be important. Further research must study these issues so that the role of performance documentation in shaping employees' reaction to controls may be more thoroughly examined.

Procedural knowledge: The findings support Hirst's (1981) postulate that output control is associated with lower dysfunctional behavior when procedural knowledge is high than when it is low. It appears that output control indicates to employees how they are doing; and when procedural knowledge is high, employees can decide for themselves the changes needed in their work methods to overcome deficiencies in performance. In other words, they do not need to

depend on their supervisors for help and, thus, do not need to blame them when things are not going well. Moreover, when procedural knowledge is high, employees most likely are evaluated in terms of complete performance measures (Hirst 1981), in which the opportunities for dysfunctional acts are minimized. According to Hirst (1981), even if employees attempt to introduce bias in performance information, supervisors have the knowledge to eliminate such bias.

The results also support Jaworski and MacInnis's (1989) premise that process control elicits lower negative reactions from employees at high (compared to low) levels of procedural knowledge. Higher task knowledge means that employees can see that the behavioral recommendations of their supervisors are not only appropriate but are also less subjective. In other words, the transparent nature of the process may bring about a greater level of agreement between the supervisor and his or her subordinates regarding the decisions made with control-systems data. Moreover, as task knowledge becomes high, there are fewer opportunities for employees to falsify process data. Although their discretion is curtailed, the transparency of the process makes involvement in dysfunctional acts risky.

Supervisory factors: The findings indicate that none of the six interaction effects hypothesized for the supervisory variables are significant. The only effect found was a direct negative association with supervisory consideration, which suggests that, at best, supervisory factors can counteract, but not prevent, the negative impact of using formal controls. In other words, if managers must use output and process controls for whatever reason, they may not be able to avoid dysfunctional responses from employees; they may, however, be able to offset such responses if they show a general pattern of being considerate.

Summary. The findings are in congruence with recent work in the areas of reengineering and empowerment, which argue that managers should trust employees and shift decision-making power to them (Glasser 1994; Hammer and Champy 1994). Trust plays a pivotal, reciprocal role—particularly when supervisors are willing to delegate responsibility even when the task knowledge is incomplete.

Managerial Implications

The findings indicate that marketing employees behave in dysfunctional ways when they are subject to both output and process controls, particularly when task knowledge is low. Employees want to look as good as possible to maximize the extrinsic rewards they may receive. From a managerial perspective, supervisors could increase the level of controls to monitor employee activities and outcomes more tightly. Although such an action may reduce opportunities for dysfunctional behavior, it also may provide employees a logical reason to act against long-term organizational interests. Moreover, with the span of control constraints of managers, employees can be expected to find ways to behave dysfunctionally. The better option seems to be to reduce the reliance on output and process controls and use them only when deemed necessary.

The results indicate that the negative effect of process control is weakened when procedural knowledge is high. The implication is that managers must be cautious when prescribing the use of process control; employees must be provided training on task procedures so that their knowledge of the transformation process is enhanced. When this is done, employees can appreciate better the need for process control. This is particularly the case when behavioral monitoring is conducted for the purpose of developing skill levels of employees rather than for the purpose of deciding merit rewards.

Managers also must be cautious about how they implement output controls. Because output measures are used mostly for determining rewards, employees may use dysfunctional behaviors from a self-interest perspective. This pattern of behavior, however, does not imply that employees are unethical; rather, it suggests that employees subscribe to the notion that what is good to them can also be considered fair. Results, however, show that when employees are given autonomy to decide for themselves the changes in behaviors needed to maximize goal fulfillment (and if they have knowledge of what these changes are), they may perceive less of a need to withhold information or distort its presentation to their supervisors.

The results show that role factors do not mediate the effect of controls on dysfunctional behavior. Although output control is associated with lower role ambiguity, the latter is not associated with dysfunctional behaviors. Similarly, though role conflict is related positively to dysfunctional behaviors, neither of the two controls has an effect on role conflict. It is interesting to note that the study does not confirm previous findings that the association between process control and role conflict is positive particularly among professional marketers (Teas 1983).

Conclusion

A critical contribution of this study is its bringing together two distinctive notions in the control literature regarding the effects that formal controls have on marketing employees' dysfunctional behaviors. Within the design parameters of the study, the results provide strong support for the traditional notion of control's effects on employees. In addition, the study "breaks new ground" in three different areas: (1) it extends the contingency arguments to previously untested supervisory contextual conditions; (2) it examines alternative arguments provided in previous research on how task conditions influence control's effects on employees; and (3) it uses a comprehensive set of contextual variables as covariates.

The inferences drawn from the study results are, however, subject to several limitations. First, caution must be exercised in drawing cause-effect inferences because of the cross-sectional research design employed. Second, similar to most studies dependent on self-report data, the associations among constructs may be inflated because of common methods variance. Efforts were made to control for this method bias qualitatively through disguising the objective of the research from respondents, negatively wording some of the items, and randomly placing the items within the questionnaire. Third, the generalizability of the results found in this study should be evaluated with the help of replication studies. In particular, there is a need to develop a more complete measurement scale that captures the different types of dysfunctional behaviors in which employees may engage on their jobs.

On the other hand, the research design used here has several positive features. It uses a heterogeneous sample comprised of marketing employees at all levels. In doing so, I was able to increase the variance on all of the study constructs. The sample is equally divided between men and women, thus avoiding gender bias. The study also provides partial solutions to measurement limitations acknowledged by Jaworski and MacInnis (1989, p. 416) by improving measurement reliability for the variables representing task characteristics.

Finally, the lack of strong findings for the contingency notion of control should be tempered by the knowledge that it is generally difficult to show contingency effects in field studies. When the measurement methodology in field studies involves interval-scale variables, a test of contingent effects relies typically on the moderated regression analytical methodology employed here. The limitations of moderated regression analytical methodology have been discussed exhaustively in other studies (cf. Darrow and Kahl 1989) and hence are not discussed here. There is, however, a need to use other design frameworks, such as experimentation, to test the hypotheses specified before the "death knell" is sounded for contingency explanations.

Appendix
Scale Items Used for the Measures^a

Measure Type	Measure/Items
Controls	Output Control • Specific performance goals are established for my job.^b • My immediate boss monitors the extent to which I attain my performance goals. • If my performance goals are not met, I would be required to explain why. • I receive feedback from my immediate supervisor concerning the extent to which I achieve my goals. • My pay increases are based upon how my performance compares with my goals.
	Process Control • My immediate boss monitors the extent to which I follow established procedures. • My immediate boss evaluates the procedures I use to accomplish a given task. • My immediate boss modifies my procedures when desired results are not obtained. • I receive feedback on how I accomplish my performance goals.
	Self Control • The major satisfaction in my life comes from my job. • The work I do on this job is very meaningful to me. • I feel that I should take credit or blame for the results of my work. • I like to do more than my share of the work at my job.
	Professional Control • The department encourages cooperation between its members. • Most of the members in my department are familiar with each other's work. • The department fosters an environment where members respect each other's work. • The department encourages job related discussions between members. • Most members in my department are able to provide accurate appraisals of each other's work.
Employees' Dysfunctional Behaviors	• I tend to ignore certain job related activities simply because they are not monitored by the division. • I work on unimportant activities simply because they are evaluated by upper management. • Even if my productivity is inconsistent, I still try to make it appear consistent. • I have adjusted marketing data to make my performance appear more in line with division goals. • When presenting data to upper management, I try to emphasize data that reflect favorably upon me. • When presenting data to upper management, I try to avoid being the bearer of bad news.
Task Characteristics	Performance Documentation • Documents exist to measure my performance after activities are complete. • The documents that exist can adequately assess my performance. • Documents exist to assess my performance on most of my activities. • Information about how my performance will be evaluated has been directly communicated to me. Procedural Knowledge • There exists a clearly defined body of knowledge or subject matter that can guide me during my work. • It is possible to rely upon existing procedures and practices to do my work. • On my job, there exist objective procedures that tell me exactly how to respond in all situations. • On my job, I have to actively search for solutions beyond normal procedures many times.
Supervisory Factors	Knowledge • My supervisor knows how to accomplish the work I normally encounter. • My supervisor is intimately familiar with the day-to-day decisions related to my work. • My supervisor has developed an excellent working knowledge of my job. • I am confident that my supervisor can assess my job performance. • My supervisor can specify the most important variables to monitor in my work. • My supervisor can specify performance objectives to cover the range of activities I perform. Participation • I generally feel I have a lot of influence on what goes on in my work unit. • I feel that I can influence the decisions of my supervisor regarding things of concern to me. • My supervisor usually asks for my opinion on issues related to my work. • It is easy to get my ideas across to my supervisor on issues relating to improving my job or changing the set-up in some way.

Consideration - My supervisor . . .

- is friendly and approachable.
- helps make my job more pleasant.
- does little things to make it pleasant to be a member of the work unit.
- treats all people (s)he supervises equally.
- looks out for the personal welfare of group members.

Role Stress

Role Ambiguity

- I feel certain about how much authority I have.
- I know what my responsibilities are.
- I know exactly what is expected of me.
- I know the scope of my job.

Role Conflict

- I often receive assignments without adequate resources and materials to execute them.
- I often work under vague directions or orders.

^aOnly the items remaining after internal consistency analyses are reported

^bScale items are measured on 5-point interval scales with 1 representing "strongly disagree" and 5 representing "strongly agree."

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1. THE MARKETING ENVIRONMENT

1.1 Consumer Behavior

See also 58, 82, 84, 92, 114, 147, 151, 154, 156, 162, 175, 179, 183, 187, 188, 195, 202, 204, 205, 219, 225, 227, 241

Out of the Closet. Hazel Kahan and David Mulryan, *American Demographics*, 17 (May 1995), pp. 40-43, 46, 47. [Discussion, Gays, Market size, Growth, Self-identification problems, Expenditures, Media use, Men, Women, Generation gaps, Diffusion, Marketing efforts, Assessment.] 1

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The Effects of Emotional Arousal and Valence on Television Viewers' Cognitive Capacity and Memory. Annie Lang, Kuljinder Dhillon, and Qingwen Dong, *Journal of Broadcasting and Electronic Media*, 39 (Summer 1995), pp. 313-27. [Literature review, Hypotheses, Two experiments, Messages, Processing, Recall, Negative, Positive, Reaction time, Statistical analysis.] 7

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Ritual and Relationships: Interpersonal Influences on Shared Consumption. Brenda Gainer, *Journal of Business Research*, 32 (March 1995), pp. 253–60. [Literature review; Depth interviews; Consumers of the live performing arts, Common participation in shared common rituals, even if not performed face-to-face, can be used actively to manage the social relationships that bind consumers together in “small worlds”; Managerial implications.] 9

Dyadic Perceptions in Personal Source Information Search. Laura J. Yale and Mary C. Gilly, *Journal of Business Research*, 32 (March 1995), pp. 225–37. [Opinion leadership, Hypotheses, Information seeker/information source dyads, Demographic characteristics, Measures, Subjective product knowledge, Subjective and episodic influence, Ownership, Usage and purchase experience, Assessment.] 10

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Effects of Self-Referencing on Persuasion. Robert E. Burnkrant and H. Rao Unnava, *Journal of Consumer Research*, 22 (June 1995), pp. 17–26. [Literature review, Two experiments, Impacts, Message elaboration, Message arguments, Attitudes toward the product and advertisement, Assessment, ANOVA.] 14

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How Consumers Consume: A Typology of Consumption Practices. Douglas B. Holt, *Journal of Consumer Research*, 22 (June 1995), pp. 1–16. [Literature review; Model presentation; Observations; Baseball spectators; Consuming as experience, integration, play, and classification; Application; Developing a new approach for conceptualizing materialism.] 16

Waiting Time and Decision Making: Is Time like Money? France Leclerc, Bernd H. Schmitt, and Laurette Dube, *Journal of Consumer Research*, 22 (June 1995), pp. 110–19. [Literature review, Prospect theory, Mental accounting, Eight studies, Scenarios, Context effects, Integration and segregation of time losses, Risk behavior involving waiting time, Assessment.] 17

Decision Ambiguity and Incumbent Brand Advantage. A.V. Muthukrishnan, *Journal of Consumer Research*, 22 (June 1995), pp. 98–109. [Literature review, Brand preferences, Competition,

Five experiments, Impacts, Experience, Belief crystallization, Comparative judgments, Memory-based, Stimulus-based, Statistical analysis.] 18

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Household Life-Cycle Stages, Transitions, and Product Expenditures. Robert E. Wilkes, *Journal of Consumer Research*, 22 (June 1995), pp. 27–42. [Literature review, Models, Data collection, Comparisons, Traditional flow, Singles, Specific products, Statistical analysis.] 20

Following the Drill: The Search for a Dentist. William H. Motes, Bruce A. Huhmann, and C. Jeanne Hill, *Journal of Health Care Marketing*, 15 (Summer 1995), pp. 34–41. [Consumer survey, Length of search, Types of information and number of specific sources used, Comparisons, Specialized versus routine dental work, Demographic characteristics, Assessment, Managerial implications.] 21

Seeking the Ideal Form: Product Design and Consumer Response. Peter H. Bloch, *Journal of Marketing*, 59 (July 1995), pp. 16–29. [Literature review; Propositions; Model presentation; Design goals and constraints; Cognitive, affective, and behavioral components; Tastes and preferences; Situational moderators; Assessment; Managerial implications.] 22

When to Accentuate the Negative: The Effects of Perceived Efficacy and Message Framing on Intentions to Perform a Health-Related Behavior. Lauren G. Block and Punam Anand Keller, *Journal of Marketing Research*, 32 (May 1995), pp. 192–203. [Literature review, Hypotheses, Two experiments, Recommended behavior, Desired outcomes, Depth of processing, Positive versus negative framing, Impacts, Persuasion, Statistical analysis, Implications.] 23

African American Participation in Wildland Outdoor Recreation. Morgan P. Miles, Fred H. Ritzel, H. Ken Cordell, and Barbara McDonald, *Journal of Nonprofit and Public Sector Marketing*, 2 (No. 4, 1994), pp. 63–77. [Literature review, Hypotheses, National Recreation Survey data set, Comparisons, Whites, Statistical analysis, Public policy implications.] 24

1.2 Legal, Political and Economic Issues

See also 29, 30, 76, 86, 110, 146, 147, 150, 151, 182

The Legal Implications of Electronic Document Retention. Greg Davis and Robert M. Barker, *Business Horizons*, 38 (May/June 1995), pp. 51–56. [Discussion, Litigation, Court decisions, Impacts, E-mail messages, End user computing files, Electronic customer data records, Digitized customer complaints, Voice mail, Success, Guidelines.] 25

Research Joint Ventures and the Development of Digital HDTV. Mark J. Braun, *Journal of Broadcasting and Electronic Media*, 39 (Summer 1995), pp. 390–407. [Literature review, Technology, R&D, Legislation, Consortia filings, Survey, Participants, Cooperative research activities, Assessment, Policy implications.] 26

“Green Marketing” and the First Amendment. Joseph J. Ortego, *Marketing Management*, 4 (Fall 1995), pp. 62–64. [Commercial advertising, Court decisions, Legislation, Regulation, Restrictions, Protection, Governmental interest, Alternative expressions, Assessment, California.] 27

Sweepstakes or Lottery? Barry R. Shapiro, *Marketing Management*, 3 (Spring 1995), pp. 54–56. [Discussion, Market strategy,

Prizes, Regulation, Court decisions, Eligibility, Rules, Validations, Instructions, Assessment.] 28

1.3 Ethics and Social Responsibility

See also 110, 153, 157

Quality, Choice, and the Economics of Concealment: The Marketing of Lemons. Robert R. Kerton and Richard W. Bodel, *Journal of Consumer Affairs*, 29 (Summer 1995), pp. 1–28. [Literature review, Deception, Mathematical equations, Impacts, Revenue, Cost, Probability of being detected, International, Regulation, Assessment.] 29

Direct Marketing and the Use of Individual-Level Consumer Information: Determining How and When “Privacy” Matters. Glen J. Nowak and Joseph Phelps, *Journal of Direct Marketing*, 9 (Summer 1995), pp. 46–60. [Computerized databases, Court decisions, Information collection methods, Level of consumer knowledge, Information use practices, Success, Guidelines.] 30

2. MARKETING FUNCTIONS

2.1 Management, Planning, and Strategy

See also 25, 26, 59, 60, 65, 67, 87, 88, 89, 90, 95, 96, 97, 98, 99, 101, 132, 133, 134, 136, 137, 138, 140, 141, 144, 159, 163, 166, 168, 169, 170, 171, 172, 173, 174, 194, 196, 197, 210, 215, 217, 218, 242, 244

The Shifting Sands of Competitive Advantage. William B. Werther, Jr. and Jeffrey L. Kerr, *Business Horizons*, 38 (May/June 1995), pp. 11–17. [Corporate culture; Multiple, interactive competencies; Development; Skills; Shadow strategy technique; Strategy shifting; Examples.] 31

Business Quarterly (Canada), 59 (Summer 1995), pp. 71–94. [Four articles on entrepreneurs, Survey, Skills, Leadership, Financial management, Motivation, Vision, Venture capitalists, International, Business planning, Technical ability, Teams, Continuous learning, Case studies, Canada.] 32

Taking the Initiative. Julian Birkinshaw, *Business Quarterly* (Canada), 59 (Summer 1995), pp. 97–102. [Canadian subsidiaries of foreign parent companies, Value-adding strategies, Characteristics, Entrepreneurial process, Winning solutions, Top management support.] 33

Thinking Differently. Gary Hamel and C.K. Prahalad, *Business Quarterly* (Canada), 59 (Summer 1995), pp. 22–25, 28–29, 32–35. [Strategic planning, Competitiveness, Initiative, Impacts, Bureaucracy, Customer orientation, Core competencies, Success, Guidelines.] 34

IT Outsourcing: Maximize Flexibility and Control. Mary C. Lacity, Leslie P. Willcocks, and David F. Feeny, *Harvard Business Review*, 95 (May/June 1995), pp. 84–93. [Interviews with executives, Attitudes, Information technology, Supplier selection, Cost savings, Failure to meet expected service levels, Adjusting to change, Success, Guidelines.] 35

The Key Accountization of the Firm: A Case Study. Catherine Pardo, Robert Salle, and Robert Spencer, *Industrial Marketing Management*, 24 (March 1995), pp. 123–34. [Theoretical discussion, Interaction model, Adaptation, Reactive, Proactive, Phases, Naivety, Awareness, Consolidation, Fine tuning, Application, Telecommunications industry] 36

Strategic Benchmarking: Innovation Practices in Financial Institutions. Stephen A.W. Drew, *International Journal of Bank Marketing (UK)*, 13 (No. 1, 1995), pp. 4–16. [Literature review, Survey of executives, Strategic planning practices, Product development, Approaches, Organizational structure, Human resource development, Factors, Success, Failure, Assessment, Implications, Canada] 37

Organizational Implications of Divestment: A Comparison of Innovative Practices in Crown and Private Corporations in Canada. Kent Carter, Mary Beth Pinto, and Jeffrey K. Pinto, *International Journal of Commerce and Management*, 5 (No. 1 and 2, 1995), pp. 69–90. [Discussion, Organizational behavior, Survey, Effects, Economic, Social, Risk, Reward, Cross-functional cooperation, Statistical analysis] 38

Measuring Relative Productivity and Staffing Levels in a Federal Procurement Office. Dennis E. Black, *International Journal of Purchasing and Materials Management*, 31 (Summer 1995), pp. 43–50. [Workload Index Model, Application of systematic weights, Measures, Resources, Performance, Assessment.] 39

Supply Managers for the Twenty-First Century: The Learning Imperative. Alvin J. Williams, *International Journal of Purchasing and Materials Management*, 31 (Summer 1995), pp. 38–42. [Learning-based supply management teams, Characteristics, Change, Education, Intellectual capital, Reward systems, Customer satisfaction, Top management support.] 40

Order of Market Entry, Competitive Strategy, and Financial Performance. Julio O. DeCastro and James J. Chrisman, *Journal of Business Research*, 33 (June 1995), pp. 165–77. [Literature review, Interactive effects, Hypotheses, PIMS database, Variable measures, Differentiation, Low cost, Utility, Stuck-in-the-middle, Statistical analysis, Managerial implications.] 41

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The Foreign Direct Investment Decision Process: Case Studies of Different Types of Decision Processes in Finnish Firms. Jorma Larimo, *Journal of Business Research*, 33 (May 1995), pp. 25–55. [Literature review, Model presentation, Factors, Decision recognition, Diagnosis, Search, Design, Evaluation/choice, Authorization, Applications, Managerial implications.] 43

Strategic Groups, Mobility Barriers, and Competitive Advantage: An Empirical Investigation. S. Ade Olusoga, Michael P. Mokwa, and Charles H. Noble, *Journal of Business Research*, 33 (June 1995), pp. 153–64. [Literature review, Performance, Measures, Variables, Scope, Functional strategies, New product development, Distribution, Pricing, Financial, Manufacturing, Firm size, Profits, Market shares, Assessment, Implications.] 44

Strategic Adaptation to Extended Rivalry Effects on Organizational Performance. Patrick L. Schul, Peter S. Davis, and Michael D. Hartline, *Journal of Business Research*, 33 (June 1995), pp. 129–42. [Literature review, Path-analytic model, Mathematical equations, Survey of companies, Impacts, Supplier and buyer power, Threat of substitutes, Low cost and differentiation strategies, Return on assets, Sales growth, Statistical analysis, Managerial implications.] 45

Wanted: Strategic Planners. Meryl Davids, *Journal of Business Strategy*, 16 (May/June 1995), pp. 30–38. [Discussion, Recruitment, Characteristics, Quality, Growth, Teams, Entrepreneurial thinking, Competitive, Case studies.] 46

A Framework for Entry Deterrence Strategy: The Competitive Environment, Choices, and Consequences. Thomas S. Gruca and D. Sudharshan, *Journal of Marketing*, 59 (July 1995), pp. 44–55. [Literature review; Interconnected elements; Strategies involving a single element of the marketing mix to corporate-level strategies; Role of perceptions in signal detection, interpretation, and decision making; Assessment; Research implications.] 47

Market Orientation and the Learning Organization. Stanley F. Slater and John C. Narver, *Journal of Marketing*, 59 (July 1995), pp. 63–74. [Literature review, Organizational behavior, Stages, Information acquisition, Dissemination, Shared interpretation, Corporate culture, Outcomes, Competitive advantage, Entrepreneurship, Facilitation leadership, Decentralization, Assessment, Research implications.] 48

Long Range Planning (UK), 28 (June 1995), pp. 10–67. [Six articles on managing joint ventures, International, Partnerships, Complementary skills, Compatible goals, Organizational learning, Knowledge transfer, Strategic planning, Product development, Success, Factors, Case studies.] 49

Total Quality—Systems Survive, Cultures Change. Mark A. Shadur, *Long Range Planning (UK)*, 28 (April 1995), pp. 115–25 [Discussion, Comparisons, Approaches, Standard-based, Culture-based, Advantages, Disadvantages, Applications, Automobile and airline industries, Australia.] 50

The Process of Market-Driven Transformation. Sandra Vandermerwe, *Long Range Planning (UK)*, 28 (April 1995), pp. 79–91. [Discussion, Timing, Stages, Agitation, Education, Integration, Managing resistance, Risk profiles, Examples, Guidelines.] 51

Intelligent Marketing Information Systems: Computerized Intelligence for Marketing Decision Making. Chandra S. Amaravadi, Subhashish Samaddar, and Siddhartha Dutta, *Marketing Intelligence and Planning (UK)*, 13 (No. 2, 1995), pp. 4–13. [Discussion, Shortcomings, Framework proposal, Relationships, Input, Filter, Library, Marketing decision support, Output, Application, Implications.] 52

Marketing Decision Support Systems in a Small Trading Nation: An Australian Case Study. Alan Buttery and Rick Tamaschke, *Marketing Intelligence and Planning (UK)*, 13 (No. 2, 1995), pp. 14–28. [Literature review, Comparisons, US, UK, Survey of firms, Impacts, Marketing decisions, Factors, Computer usage, Software packages, Sources of electronic information, Satisfaction, Projections.] 53

Preparing for a Point-to-Point World. *Marketing Management*, 3 (Spring 1995), pp. 30–40. [Trends, Technology, Employee relations, Electronic distribution, International, On-line services, Customer feedback, Decentralizing decision making, Sharing information, Integrating systems, Risks, Examples.] 54

Taking a Road Trip. Edward F. McQuarrie, *Marketing Management*, 3 (Spring 1995), pp. 8–21. [Customer visits, Benefits, Face-to-face communication, Field research, First-hand knowledge, Interactive conversation, Inclusion of multiple decision makers, Success, Guidelines.] 55

Training Hits the Road. Robert L. Lindstrom, *Sales and Marketing Management*, 147 (June 1995/Part 2), pp. 10–14. [Portable interactive systems, Software packages, CD-ROM, Advantages, Costs, Self-education, Demand-driven learning, Projections, Assessment.] 56

Is There a Payoff? Rick Mendosa, *Sales and Marketing Management*, 147 (June 1995), pp. 64–66, 68–71. [Corporate planning, Training, Costs, Evaluation, Levels, Reaction, Learning, Behavior, Results, Impacts, Control groups, Success, Examples.] 57

2.2 Retailing

See also 76, 80, 91, 103, 117, 230

Unacquainted Influencers: When Strangers Interact in the Retail Setting. Mary Ann McGrath and Cele Otnes, *Journal of Business Research*, 32 (March 1995), pp. 261–72 [Observation, Depth interviews, Prescribed format of shopping, Recipients of influence who proactively act as help-seekers or influencers can assume the

role of either proactive or reactive helper in a social exchange, Implications for retail sales personnel.] 58

Category Management: Who Wins? Who Loses? Susan Reda, *Stores*, 77 (April 1995), pp. 16–19. [Mass merchandisers; Supplier relations; Managing product groups as business units; Advantages; Problems; Roles; Strategic planning; Analytical, creative, and financial expertise; Negotiation skills; Computer literacy; Assessment.] 59

2.3 Channels of Distribution

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The Benefits of “Guanxi”: The Value of Relationships in Developing the Chinese Market. Howard Davies, Thomas K.P. Leung, Sherriff T.K. Luk, and Yiu-hing Wong, *Industrial Marketing Management*, 24 (June 1995), pp. 207–14. [Literature review, Survey of Chinese executives, Perceived benefits, Factors, Procurement, Information, Bureaucracy, Transaction smoothing, Statistical analysis, Managerial implications, Hong Kong.] 60

Understanding the Persuasion Process Between Industrial Buyers and Sellers. Judith M. Schmitz, *Industrial Marketing Management*, 24 (March 1995), pp. 83–90. [Elaboration likelihood model, Variables, Motivation, Capability, Peripheral cues, Application, Buying centers, Managerial and research implications.] 61

Network Management and the Branch Distribution Channel. Steven J. Greenland, *International Journal of Bank Marketing (UK)*, 13 (No. 4, 1995), pp. 12–18. [Trends, Financial services, Telephone marketing, Automated teller machines, Changes, Size, Hierarchy, Levels, Roles, Branch design, Spatial arrangement, Structure, Assessment, UK.] 62

Maintaining Buyer-Supplier Partnerships. Robert Landeros, Robert Reck, and Richard E. Plank, *International Journal of Purchasing and Materials Management*, 31 (Summer 1995), pp. 2–11. [Model presentation, Stages, Buyer's expectations, Seller's perception, Mutual understanding and commitment, Performance activity, Corrective action, Assessment, Managerial implications.] 63

The Moderating Effects of Insupplier/Outsupplier Status on Organizational Buyer Attitudes. Steven P. Brown, *Journal of the Academy of Marketing Science*, 23 (Summer 1995), pp. 170–81. [Literature review, Model development and testing, Hypotheses, Survey, Attitudes, Product, Salesperson, Relationships, Company reputation, Attitude toward salespeople in general, Perceived experience, Product-related cognitions, Purchase significance, Perceived risk, Statistical analysis, Managerial implications.] 64

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Contractual Arrangements in Franchising: An Empirical Investigation. Deepak Agrawal and Rajiv Lal, *Journal of Marketing Research*, 32 (May 1995), pp. 213–21. [Literature review, Model presentation, Hypotheses, Survey of franchisees, Effects, Royalty rate, Monitoring costs, Service level, Monitoring frequency, Brand-name investment, Statistical analysis.] 66

Analysis of Survival Rates Among Franchise and Independent Small Business Startups. Timothy Bates, *Journal of Small Business Management*, 33 (April 1995), pp. 26–36. [Data collection, Comparisons, Characteristics, Capitalization, Franchise start-ups exhibit both higher rates of firm discontinuance and lower mean profitability.] 67

Franchisee Satisfaction: Contributors and Consequences. Nerilee Hing, *Journal of Small Business Management*, 33 (April 1995), pp. 12–25. [Model presentation, Hypotheses, Survey, Characteristics of franchisors and franchisees, Initial and ongoing support services, Intentions, Assessment, Restaurant industry, Australia.] 68

Franchisor Geographic Expansion. Scott D. Julian and Gary J. Castrogiovanni, *Journal of Small Business Management*, 33 (April 1995), pp. 1–11. [Survey, Effects, Business type, Size, Age, Regions, Domestic versus multinational franchisors, Statistical analysis, Implications.] 69

An Industry Remakes Itself. James Morgan, *Purchasing*, 118 (May 4, 1995), pp. 36–37, 39–40, 43. [Internal downsizing, Distribution source reduction, Value, Integrated supply, Alliances, Problems, Manufacturers, Functional pricing, Projections.] 70

2.4 Physical Distribution

See also 142, 199

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International Freight Forwarders: Current Activities and Operational Issues. Paul R. Murphy and James M. Daley, *International Journal of Purchasing and Materials Management*, 31 (Summer 1995), pp. 21–27. [Survey, Functions provided, Revenues, Influences, Intermodalism, Logistics outsourcing, Conflicts of interest, Legal, Operational, Rates, Marketing, Assessment.] 72

International Sourcing and Supply Chain Stability. David L. Levy, *Journal of International Business Studies*, 26 (Second Quarter 1995), pp. 343–60. [Literature review, Simulated model, Demand- and production-related disruptions, Impacts, Costs, Expedited shipping, High inventories, Lower demand fulfillment, Time factor, Case study.] 73

Single Facility Due Date Setting With Multiple Customer Classes. Izak Duenyas, *Management Science*, 41 (April 1995), pp. 608–19. [Delivery-time competition, Time-sensitive customers, Simulation results suggest that policies that take into account customer price and due date preferences in scheduling and quoting due dates significantly outperform due date-setting policies that do not.] 74

Third Parties Gain Slow, Cautious Buyer Support. Peter Bradley, *Purchasing*, 118 (May 18, 1995), pp. 51–52. [Survey, Motives for using logistics providers, Problems, Control, Failure to select or manage providers properly, Limitations, Assessment.] 75

Retailers See Gains from Trucking Deregulation. David P. Schulz, *Stores*, 77 (April 1995), pp. 53–54. [Discussion, End-of-rate and route regulation on intrastate shipments, Impacts, National and smaller or regional chains, Fleet ownership, Shipping costs, Delivery schedules, Assessment.] 76

2.5 Pricing

See also 3, 5, 70, 92, 94, 103, 155, 201

Pricing an Industrial Technological Innovation: A Case Study. Arch G. Woodside, *Industrial Marketing Management*, 24 (June 1995), pp. 145–50. [Discussion, Fencing wire, Alternative strategies, Penetration, Competitive parity, Skimming, Assessment, Guidelines, New Zealand.] 77

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ket-related, Internal industry, Survey, Market strategy, Focus, Differentiation, Cost leadership, Pricing objectives, Profit margins, Market shares, Mutuality, Assessment, UK.] 78

Target Pricing—A Challenge for Purchasing. Richard G. Newman and John M. McKeller, *International Journal of Purchasing and Materials Management*, 31 (Summer 1995), pp. 12–20. [Discussion, Techniques, Reduction of cycle time, Value analysis, Design decisions, Options, Quote, Bid, Price analysis, Supplier provided cost data, Matrix, Example.] 79

Explaining the Variation in Short-Term Sales Response to Retail Price Promotions. V. Kumar and Arun Pereira, *Journal of the Academy of Marketing Science*, 23 (Summer 1995), pp. 155–69. [Discussion, Hypotheses, Store-level data from retail chains in three major markets, Operant conditioning theory, Frequency and scheduling, Impacts, Features, Displays, Mathematical equations, Brand names, Interactions, Statistical analysis, Managerial implications.] 80

Modeling the Distribution of Price Sensitivity and Implications for Optimal Retail Pricing. Byung-Do Kim, Robert C. Blattberg, and Peter E. Rossi, *Journal of Business and Economic Statistics*, 13 (July 1995), pp. 291–303. [Literature review, Random-coefficient logit, Brand-specific intercepts and price-slope coefficients are allowed to vary across households, Panel data, Chain-level costs, Semiparametric density estimates based on series expansions.] 81

Mental Accounting and Changes in Price: The Frame Dependence of Reference Dependence. Timothy B. Heath, Subimal Chatterjee, and Karen Russo France, *Journal of Consumer Research*, 22 (June 1995), pp. 90–97. [Literature review, Experiment, Price frames, Absolute, Percentage-based, Multiple events, Gains, Losses, Segregation, Integration, Indifference, Statistical analysis, Implications, Thaler.] 82

Price Competition and Compatibility in the Presence of Positive Demand Externalities. Jinhong Xie and Marvin Sirbu, *Management Science*, 41 (May 1995), pp. 909–26. [Literature review, Model presentation, Diffusion, New products, Dynamic pricing, Duopoly, Network externalities, Standards, Assessment, Managerial implications.] 83

2.6 Product

See also 5, 8, 13, 18, 20, 22, 26, 37, 52, 54, 56, 77, 83, 107, 118, 127, 128, 140, 150, 203, 206, 216

Advertising Age, 66 (April 3, 1995), pp. S-1–S-32. [Fifteen articles on automotive marketing, Trends, Market strategy, Mass customization, Market segments, Hispanics, Asians, African-Americans, Women, Advertising, Lifestyle-based appeals, Direct mail campaigns, Interactive media, Case studies.] 84

True Brew. *American Demographics*, 17 (May 1995), pp. 32–39. [Business growth, Specialty breweries, Market potentials, Market segments, Demographic characteristics, Regions, Statistical data.] 85

Product Liability: Who Sues? Paula Mergenhausen, *American Demographics*, 17 (June 1995), pp. 48–54. [Discussion, Injuries, Class-action suits, Impacts, Product development, Advertising claims, Prevention measures, Assessment.] 86

Thinking Out of the Box: A New Approach to Product Development. Primo Angeli, *Business Horizons*, 38 (May/June 1995), pp. 18–22. [Discussion, Techniques, Packaging, Rapid Access, Freely explore an array of potential products, Review and select most compelling concepts, Send the preaccepted packages to R&D, Application.] 87

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tions, Internet, Online, Government agencies, Information technology services, Market potentials, Market segments, Software packages, Piracy, Training by CD-ROM, CEOs, Case studies.] **88**

Involving Organizational Buyers in New Product Development. Kwaku Atuahene-Guma, *Industrial Marketing Management*, 24 (June 1995), pp. 215–26. [Literature review, Model presentation, Survey of companies, Impacts, Perceived importance of the purchasing function, Confidence in capabilities, Effectiveness of supplier interaction, Buyers mobility within the firm, Risk-taking propensity, Interactions with other departments, Managerial implications, Australia.] **89**

Net Present Value Techniques and Their Effects on New Product Research. George T. Haley and Stephen M. Goldberg, *Industrial Marketing Management*, 24 (June 1995), pp. 177–90. [Industry comparisons, Hypotheses, Data collection, Emphasis, Financial methods, Measures, Time, Innovativeness, Risk, Statistical analysis, Recommendations.] **90**

Reassessing Brand Loyalty, Price Sensitivity, and Merchandising Effects on Consumer Brand Choice. Greg M. Allenby and Peter J. Lenk, *Journal of Business and Economic Statistics*, 13 (July 1995), pp. 281–89. [Model presentation, Empirical study of household brand choices over four scanner-panel data sets, Impacts, In-store displays, Feature advertisements, Comparisons, Frequent and infrequent buyers, Statistical analysis.] **91**

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5. OTHER TOPICS

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Book Reviews

How Culture Works

By Paul Bohannon (New York: The Free Press, 1995, 217 pages, \$24.95)

When I was asked to review *How Culture Works* I saw it as an opportunity to catch up with the latest thinking in anthropology. Paul Bohannon has been one of the leading authors in the field and has perhaps the broadest perspective on its substance and trajectory. Although anthropological methods now are being applied frequently in consumer behavior research (e.g., Penaloza 1994) and concepts have "leaked" slowly into the broader marketing literature (e.g., Clark 1990; Roth 1995; Steffire 1968; Takada and Jain 1991), many of the ideas and theories developed in "the study of human beings" deserve wider application in a variety of marketing science contexts. Perhaps the most obvious example is international marketing. For example, why has culture's influence on marketing strategy or sales management practices received so little attention from American marketing scholars? Indeed, seven years ago Kjell Gronhaug and I (see Graham and Gronhaug 1989) attributed the lack of the exchange of ideas between marketing science and anthropology to the former's adoration of positivism and the latter's aversion to business enterprise. In seven years, things have changed. Marketing has a growing interest in postmodernism (e.g., Venkatesh and Firat 1995). But, what about anthropology? I opened *How Culture Works* anticipating a cogent overview of the future of the field and perhaps a few new gems of applicability for marketing. I was not disappointed.

The book starts out slowly—particularly in the first chapter in which Bohannon expends great effort distinguishing among matter, life, and culture. I did not find this chapter worthwhile generally, and it certainly is irrelevant to most marketing scholars. So, I recommend reading this section quickly, because the more interesting material begins in Chapter 2.

One important concept to which Bohannon often refers throughout the book is defined in the preface. *Cultural traps* are aspects of culture that once were useful, but over time have become obsolete and even dangerous if they are not adjusted to. For example, in marketing, emphasizing mass-media advertising for grocery products made sense until the advent of scanner technology. Now, the competition is more for shelf space than for a share of the consumer's mind, and persisting in an emphasis on such "old proven tools" as television spots, Burke scores, and the like makes little sense.

I believe the concept of market share is a cultural trap as well. Perhaps company sales (the numerator) and industry sales (the denominator) were easily defined in the 1980s (for an opposing view, see Levitt 1960). In the 1990s, however, with strategic alliances (e.g., AT&T with Mitsubishi with INTEL) spreading "like a winter flu" and the boundaries of markets (e.g., telecommunications, computer hardware, software) blurring, neither numerator nor denominator in the market-share equation is easily assessable. The mere calculation of market share is a cultural trap in the dynamic

technological churning and corporate networking of today's and tomorrow's markets.

For anyone working in the information processing area, Chapter 2 is important material. Bohannon presents a model of individual learning that at first glance is no different from consumer behavior models that appeared in the marketing literature in the 1970s (p. 16). But his model has a new element—something he calls a *comparator*. Usually, I am irritated when people use arcane terminology for common concepts, even if I can find them in *Webster's Dictionary*, which I did in this case. But Bohannon's notion of a comparator is more intricate than the related concepts used in marketing, such as filters, attitudes, and stimulus elaboration, and thus it deserves a new appellation. Simply stated, people make sense of all stimuli by *comparing* them to a standard based on the sum total of their experience (i.e., learning and culture) and genetic inputs. It is this individual standard that Bohannon terms a *comparator*. Comparators include cultural values, memories, and cognitive schemata (i.e., mental categories and systems for organizing information), of which language and grammar are just two important types.

This notion of a comparator helps people better understand and explain, for example, the different Anglo and African-American audiences' reactions to movies such as *White Man's Burden*:

"It was two different movies," says writer and first-time director Desmond Nakano.... "For the white audience, it was much more of a drama—heavier and more intense. But some of the black audience thought it was almost a comedy" (Coleman 1995, p. 29).

In other words, the movie was "made sense of" in two different ways because the people in the two audiences had different comparators. Likewise, consider Americans' reactions to the O. J. Simpson verdict. Or, take for example the word *blue*. Its meaning depends completely on the context and comparators. Blue can be the color of the sky on a nice day or a kind of music, or it can be associated with cold. Some Native American languages do not distinguish between blue and green, so to them trees might be blue. Indeed, Bohannon tells us that in the African tribe he studies, colors are verbs, not nouns or adjectives. In addition, there are blue (pornographic) movies. Indeed, this notion of comparator helps people understand why R-rated American movies sell well overseas. Because sex and violence (death) are cultural universals, foreigners can understand the story lines. Themes that are more subtle do not translate. Those working in semiotics will see the value of Bohannon's comparator concept.

In Chapters 3 and 4, Bohannon explains culture's effects on society. He distinguishes between the behavioral patterns people share with other animals and those particular to the human species. In the first category, he includes four concepts: (1) dominance, (2) kinship, (3) specialization of tasks, and (4) cooperation. He makes a special point about the close connection between kinship and cooperation. His discussion recalls an understudied aspect of rela-

tionship marketing, namely, the role of kinship, particularly in Asian and Hispanic markets.

The second category of what might be called *cultural universals* is even more interesting. It includes seven fundamental concepts: (1) contract, (2) role, (3) ranking, (4) property, (5) the market principle, (6) networking, and (7) mass audience and public relations. Here, as I interpret concept 5, 6, and 7, Bohannon gives permission and good reason for anthropologists to study marketing topics and contexts. He has both granted marketing the status of a basic social science and freed his colleagues from approximately 30 years of disciplinary myopia. Once again anthropologists can study traders as they commonly did before the 1960s (Graham and Gronhaug 1989). I can only hope his colleagues take his advice seriously.

In Chapter 5, the author convincingly argues that a basic unit of analysis in the study of cultural dynamics is the *action chain*.

Actions and events follow one another in predictable chains, sometimes founded on cause and effect, sometimes only on cultural tradition. Unless it is disturbed, a known sequence of acts, once begun, is usually followed through. Although the participants have the option of removing themselves from most action chains, the price may be very high. Moreover, only with the completion of the sequence can any of the actions do what the actors intended them to do. The same actions, in different contexts outside the sequence, may well have utterly different meanings and effects. Correct sequence imparts meaning and efficiency to actions chains (p. 49).

Certainly in marketing, scholars have studied chains of behavior (e.g., repeat purchases and customer loyalty). And almost everyone argues for longitudinal studies. But Bohannon's notion of action chains focuses on interaction *processes*, and the *sequence* of events becomes crucial. His comments here are particularly pertinent to the work being done under the rubric of relationship marketing.

Chapters 6 through 11 are only somewhat useful for marketing scholars. In them, Bohannon defines and clarifies several social science constructs mostly related to changes in culture (e.g., patterns, turbulence, recontextualizing, invention, cultural cusps, disasters). These chapters are more useful for those considering the broader topics of marketing and society. His discussion regarding predictable responses to cultural disasters is poignant.

People lose both the right to run their own lives and the sense of responsibility for doing so. They can no longer make all their own decisions; they lose faith in themselves, become listless and apathetic ... social problems burgeon as more and more disoriented people take refuge in alcohol or drugs (pp. 130–31).

Might not marketing scholars also contribute to the debate on illicit drugs?

In the last four chapters, Bohannon describes research methods. In Chapter 12, he argues for the "bread and butter" of anthropology, namely, field work and ethnography, as he advocates for a focus on action chains in that sort of work. Chapter 13 was the most surprising, because Bohannon argues for the use of *simulations* in anthropology. Because I have used simulations (of marketing negotiations) to compare cultures and, as a consequence, have encountered the ire of anthropologists for not studying "real" behavior, Chapter 13 is a nice pat on the back. Chapter 14 has more on cultural traps. Finally, in the last chapter Bohannon argues that systematic scenario development or "futurography" will play an important role in social science and policy making. His comments deserve consideration toward counterbalancing the current interest in marketing with the often single-minded game-theoretic predictions and quantitative forecasting techniques.

In summary, *How Culture Works* is a worthwhile exchange medium between anthropology and marketing science. Although the book is short, it is not a quick read because it is thought provoking. In the book, Bohannon has laid out a variety of opportunities for cross-disciplinary fertilization. I suggest we take advantage of his ideas.

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Jihad vs. McWorld

By Benjamin R. Barber (New York: Times Books, 1995, 381 pages, \$25.00)

Them vs. Me vs. Us

We live in troubling times in a complicated world, and both futurism and "big-picture-ism" are big businesses. In his latest book, it appears that Benjamin Barber, a political scientist at Rutgers University, attempts to explain it all—to create a framework to help us understand everything from Quebec's halting steps to independence, to the design of suburban housing developments, microbreweries, the success of American movies in Indonesia, the North American Free Trade Agreement, the perennial war in the Balkans, and the paradoxical alliance that currently comprises America's Republican Party . . . all of it.

Viewed in that light, we can forgive the author for not wholly succeeding, especially because along the way he does succeed in provoking, disturbing, and inspiring us to think about some issues that are critical for all of us, as consumers and citizens—and more so as instructors of commerce, management, or marketing.

Greatly expanded from his article of the same title in the *Atlantic*, the book would have announced its aim more transparently if it were titled, *Jihad vs. McWorld vs. Democracy* or subtitled, *A Plea for Civil Society in the Postmodern World*. Yet Barber's choice of title is cleverly consistent with his major theme: Increas-

ingly, we are reduced to seeing the world in terms of conflicting sides or empty choices, while we shun the depth and discourse required to sustain civil society and, hence, genuine democracy.

As a piece of writing, *Jihad vs. McWorld* is at times frustrating, even maddening. Within the same page Barber can swoop from an impassioned, erudite, witty, and eloquent exhortation to protect the foundations of democracy to a cheap cliché about the "Rust Belt," an overwrought attack on Rupert Murdoch and his News Corporation, an irritating coinage (e.g., "infotainment telesector"), or a late hit on Reaganism.

More broadly, the narrative structure is not so much organized as it is accreted. Chapters meander and overlap, and major points come and go unannounced; powerful ideas are chopped to bits and marbled throughout. It is similar to taking a weekly ramble with the author: On each stroll, themes yet to come are injected prematurely, lest the next chance never comes; points already well made keep reemerging, as if he's unsure about having mentioned them before or distrustful of the reader's memory.

The work is weakened by relying on more instinct than analysis and more anecdote than explicit synthesis. Barber makes his case through massive and repetitious attack, not examination of carefully chosen facets. Even his central concepts, Jihad and McWorld, are given meaning by clouds of examples and metaphors rather than precise definitions.

And yet, his ideas provoke in a visceral way, so his occasional glibness and tedious exposition should not deter a person from reading—and thinking about—the central premise of the book; that is, the foundation on which Western democratic society has been built, carefully and over many centuries, is in unprecedented danger of weakening and collapse because of the rise of two powerful new sets of forces, which Barber summarizes as "McWorld" and "Jihad."

A Brave New McWorld

In Barber's view, the McWorld force is the driving one and, ultimately, the more powerful one. An amalgam of economic expansionism and popular culture, McWorld is a global "MarketLand" in which the long reign of the nation-state has yielded to transnational commerce:

There is no activity more intrinsically globalizing than trade, no ideology less interested in nations than capitalism, no challenge to frontiers more audacious than the market. By many measures, corporations are today more central players in global affairs than nations. We call them multinational but they are more understood as transnational or postnational or even antinational (p. 23).

Barber's history of McWorld begins with the Enlightenment, in its "trust in reason, its passion for liberty ... its confidence in the market, its skepticism about faith and habit, and its cosmopolitan disdain for parochial culture" (p. 156). Recent structural changes—including the "resource imperative" that has pushed even the once resource-rich United States away from its vision of autarky (i.e., societal self-sufficiency), the evolution from hard manufacturing to soft services as the source of economic strength, and (in particular) the predominance of content in the commerce of "cultural software" (i.e., the media, telecommunications, and entertainment industries, facilitated by new information technologies)—have suddenly transformed the enlightened tradition into a unifying, yet colonizing, phenomenon that foreshadows the end of man-made boundaries.

Although Barber notes that the market imperatives that lead to McWorld reinforce international peace and stability, abhor isolation and war, and provide the economic virtues of efficiency, productivity, and profitability, he devotes much of the book to a blistering critique of the other, often inadvertent, implications of McWorld. Barber's indictments are numerous, but their common thread is that market freedom is not the same as democracy and

that markets, which have a "limited capacity to generate what society needs" (p. 239), are a means but not an end. Barber chides the proponents of McWorld for their narrow and short-sighted focus on economic efficiency. "The market's invisible hand ... unguided by a sovereign head, is left to the contingencies of spontaneous greed" (p. 220) and pays no heed to public interests, which include "full employment, the dignity of work, the creative civic use of forced leisure, environmental protection, social safety nets, and personal protection" (p. 98).

Foremost among Barber's concerns is McWorld's direct destruction of the power of the nation-state. "Multinational corporations ... that lack national identities and neither reflect nor respect nationhood as an organizing or regulative principle ... are beyond the devices of sovereignty" (p. 13), and such regulatory power is what Barber considers the ultimate safeguard, if not the very expression, of democracy. Barber notes that when there is no accountable institution, there is no guarantor of "the public good." As such, markets—which have regard neither for public goods nor social justice—have other unwelcome effects that go unchecked. Commenting on the inadvertent public consequences of private choices, Barber writes, "Cybernetic and automatic rather than deliberative and genuinely voluntary, markets produce collective consequences that cannot be foreseen in the simple feedback loops established by consumers making individual choices and markets responding to them" (p. 243).

Furthermore, McWorld can be corrosive to democracy, by undermining the individual and institutional traits necessary for healthy democratic processes. At the core is the divergent demands on participants: "Capitalism seeks consumers susceptible to the shaping of their needs and the manipulation of their wants, while democracy needs citizens autonomous in their thoughts and independent in their deliberative judgments" (p. 15). This conflict is heightened by the seductiveness of self-interest:

Education is unlikely ever to win an "open market" competition with entertainment because "easy" and "hard" can never compete on equal ground, and for those not yet disciplined in the rites of learning, "freedom" will always mean easy.... Consumption takes us as it finds us, the more impulsive and greedy, the better. Education challenges our impulses and informs our greediness with lessons drawn from our mutuality and the higher goods we share in our communities of hope (p. 117).

As if these criticisms were insufficient, Barber also reminds us that McWorld does not always deliver as promised: Without regulation, markets can become noncompetitive and power-concentrating. Believing that democracy depends on the competition of diverse ideas, he shows particular alarm at the emergence of monopolies in the media, and the resulting uniformity and "virtual censorship." He warns that when all the intermediary roles between creator and audience are controlled by single entities, "This is not synergy, this is commercial totalitarianism" (p. 138).

Other critiques of McWorld are of its cultural and spiritual weaknesses. For one, McWorld is homogenizing; Vincent Malle comments "What works in Chattanooga now works in the 6th Arrondissement of Paris; it's a little sad" (p. 93). McWorld is also isolating:

The Walkman is a perfect example of the impact of new hard technologies on choice and liberty, appearing to expand each, yet in truth contracting both.... [It is] a ten-ounce fifth column for McWorld that insinuates lifestyle preferences directly into the inner ear while modifying traditional behaviors in socially significant ways (p. 73).

McWorld is dehumanizing; in his study for the Worldwatch Institute, Alan Durning states that "the words 'consumer' and 'person' have become virtual synonyms" (p. 223). And McWorld can be culturally and economically aggressive, manipulative, and coer-

cive: replacing tea- (or water-) drinking societies with soda-guzzling ones; opposed to long-lunch traditions to promote fast food; antithetical to good public transport, agricultural lifestyles, the "moral logic of austerity" (p. 71), and so forth. Ultimately, Barber finds McWorld vacuous and without soul; it is a materialist path to spiritual poverty and civic alienation: "Merchandising is as much about symbols as about goods and sells not life's necessities but life's styles ... Hollywood is McWorld's storyteller, and it inculcates secularism, passivity, consumerism, vicariousness, impulse buying, and an accelerated pace of life" (p. 60). Mocking a fast-food chain's boastful promotion of its customers' "right to choose toppings," Barber grimly declares, "[In McWorld] empowerment lies in the choice of toppings on a baked potato; the rest is passive consumption" (p. 98).

Jihad: Resistance and Persistence

After reading about McWorld, I could hardly wait to see how Barber describes the countervailing forces he luridly terms *Jihad*. Barber freely admits to using a strong term to describe what in its mildest form is merely provincialism or parochialism ("Europe's rather pallid versions," p. 169), but in its more severe form is antipluralistic and antimodern. Barber discerns several strains of Jihad: mild European varieties, which also include minority diasporas to the New World; a Pacific Rim strain marked by a determination (unsuccessful, perhaps) to exploit the benefits of markets and economic modernism without importing Western political and cultural values; an anarchistic form in the transitional democracies of the former East bloc, in which the dis-integrating power of markets is magnified by a terrain sterilized of true civic institutions through decades of state tyranny; and fundamentalism—occurring within many faiths but especially within Islam—which reacts primarily to the cultural corrosiveness and spiritual emptiness of McWorld.

What the strains of Jihad tend to have in common are their fractiousness and opposition to secular globalism, as well as their motivation to deliver people some traits of a forgotten past:

What ends as Jihad may begin as a simple search for a local identity, some set of common personal attributes to hold out against the numbing and neutering uniformities of individual modernization and the colonizing culture of McWorld (p. 9).

[The forces of Jihad] are a throwback to premodern times: an attempt to recapture a world that existed prior to cosmopolitan capitalism and was defined by religious mysteries, hierarchical communities, spellbinding traditions, and historical torpor (p. 157).

Tracing a history from a more "brightly colored" past, Barber reminds the reader how nationalism, which in recent times is a fellow-traveler of Jihad, actually "helped fashion the states that forged the Enlightenment," and that an "understanding of the nation made possible the creation of a constitutional state under the sovereignty of a 'people,' [which] offered the legal groundwork for democracy" (pp. 158–59).

Unfortunately, this liberal-nationalist alliance started to collapse earlier this century—in part because of the very rise of McWorld. This opportunity to bash McWorld anew elicits from Barber a rare agreement with the Christian Right:

There is much in McWorld that is sickening, much that outrages elementary justice and morals, much that demeans religion and religious belief, much that belittles both human beings and the larger spirit to which—if they are to feel human—they feel they must belong.... They want to be born again so as to be born yesterday (p. 213).

While no friend of McWorld, Barber also denounces Jihad, especially its fundamentalist strains, ultimately for the same reason: In Jihad he sees another enemy of democracy: "Though fundamentalism has often stood against tyranny, it has never created democracy" (p. 207)—and later, "Left to its own devices, Jihad neither generates its own democracy nor permits others to democratize it" (p. 235).¹ Elsewhere he elaborates,

[Jihad] identifies self by contrasting it with an alien "other". ... It promotes community but usually at the expense of tolerance and mutuality and hence creates a world in which belonging is more important than empowerment and collective ends posited by charismatic leaders take the place of common grounds produced by democratic deliberation. Jihad speaks the language of self-determination, but severs collective independence from the active liberty of individual citizens (p. 222).

Democracy and Civil Society

Although he recognizes that in the short term Jihad will make more noise and he allows for the possibility of a stalemate, Barber believes that in the long term McWorld will prevail—based on the unstoppable strength (or seductiveness) of Western culture and its "carrier," a global information infrastructure. Yet, regardless of the outcome, he feels democracy is the real loser. Each side targets the other more than democracy per se, but Barber believes that both attack the sovereign nation-state and damage its democratic institutions. Furthermore, because both forces are anarchistic (in the sense that they lack a common will and collective control under the rule of law) and indifferent to civil freedoms, the conflict likely will undermine human liberty and certainly will not enhance it. McWorld's claim of laissez-faire as a political strategy, according to Barber,

has moved profit-mongering privateers to insist that goods as diverse and obviously public as education, culture, penology, full employment, social welfare, and ecological equilibrium be handed over to the profit sector for arbitration and disposal. It has also persuaded them to see in privatization not merely a paring knife to trim the fat from overindulgent state bureaucracies but a cleaver with which democracy can be chopped into pieces and then pulverized (p. 239).

At the same time:

Jihad has little more use for citizens. Its denizens are blood brothers and sisters defined by identities they are not permitted to choose for themselves (p. 224).

Must people choose the fratricides and civil wars of Jihad or settle for the "savage capitalism" of McWorld? Barber rejects Jihad but chooses to contain the excesses of McWorld. He begins with a spirited defense of the proposition that governments still have an important role to play—a point once obvious beyond mentioning, but now subject to debate and doubt:

Having created the conditions that make markets possible, democracy must also do all the things that markets undo or cannot do. It must educate citizens so that they can use their markets wisely and contain market abuses well; it must support values and a common culture in which the market has no interest and does not try to reward; it must deploy mechanisms that prevent the market from self-destructing via anarchy or via monopoly; and it must secure

¹In particular, Barber ponders whether Islamic states could ever foster democracy, or whether (recounting John Waterbury's "exceptionalist" thesis, p. 207) Islam creates conditions that disqualify them from achieving the fruits of the Enlightenment.

an alternative form of choice that permits common choosing as a remedy to the inadvertent social consequences of individual choosing (p. 243).

In particular, government has a duty "to intervene in the economy in the name of justice, ecology, strategic interests, full employment, or other public goods in which the market has and can have no interest" (p. 29). Yet, Barber does not wish our choice to become the equally grim one between a "massive, busybody, bureaucratic state" and a "selfish and radical individualism" (p. 284). His remedy is a strong civil society and civic identity, which can contain obtrusive government and soften the greed and excesses of consumerism.

Barber's rather utopian vision of a reinvigorated civil society is attractive and is best illustrated through his own words:

Civil society, or civic space, occupies the middle ground between government and the private sector. It is not where we vote and it is not where we buy and sell; it is where we talk with neighbors about a crossing guard, plan a benefit for our community school, discuss how our church or synagogue can shelter the homeless, or organize a summer softball league for our children.... We work here voluntarily and in this sense inhabit a "private" realm devoted to the cooperative (non-coercive) pursuit of public goods. ... It is voluntary and is constituted by freely associated individuals and groups; but unlike the private sector, it aims at common ground and consensual ... modes of action. Civil society is thus public without being coercive, voluntary without being privatized. It is in this domain that our traditional civic institutions such as foundations, schools, churches, public interest and other voluntary civic associations properly belong (p. 281).

(Barber also includes the media, under some conditions, in the domain of traditional civic institutions.) Finally, he argues that "to make government our own is to recast our civic attitudes, which is possible only in a vibrant civil society where responsibilities and rights are joined together in a seamless web of community self-government" (p. 276).

Barber laments how civil society has been "eclipsed" and how people have become "compelled to be voters or consumers" (p. 282) in all they do. Although he notes that according to democracy scholar Boyte and his supporters, people "learn to be citizens not first in politics but in the 'free spaces' of school, church, 4-H club, and YMCA" (p. 276), Barber argues that many people

spend too much time of their day ... being "imagineered" ... much more time than they spend in school, church, the library, a community service center, a political back room, a volunteer house, or a playing field. Yet only these latter environments elicit active and engaged public behavior and ask us to define ourselves as autonomous members of civic communities marked by culture or religion or other public values (p. 97).

Central to civil society is the concept of *citizen*, which also has been eclipsed lately and is acquiring a quaint ring. Barber avers,

As a consumer, the only way I can avoid [the damaging social consequences of using a car] is to refuse to buy a car—an irrational act from the narrow economic perspective.... But in a democratic society, I am not just a consumer, I am a citizen. And as a citizen, I can act in common with others to modify the untoward public consequences of my private choice ... we can outlaw leaded gas ... These civic activities do not curb our market freedom, they facilitate it (p. 244).

An Action Plan?

It seems plausible that the weakening of civil society is a problem with broad implications and that a reversal serves to support democracy in the face of these two whirlwinds. Yet what would Barber propose to change people's minds, values, and motivations? And, specifically, how should people accept (or reaccept) civil associations and activities into the heart of their lives? What can any one person do to change a society and reclaim civility and civic-mindedness? Barber provides a few ideas—mostly on the macro-level issue of how to do so internationally—to minimize the savagery of global capitalism and the impetus for Jihad.

Barber sees hope neither for traditional international organizations nor for further internationalization of law. Rather than straining to invent new types, people should be "reconceptualizing and repositioning institutions already in place, or finding ways to recreate them in an international setting" (p. 285). In other words, people must create alternative institutions that are nonmarket and nongovernment, organizations that facilitate cooperation without destroying autonomy.

To solve the dilemmas of statehood and self-determination, Barber suggests steering more to the confederal model of pre-1880 Switzerland than to the present-day European Union. Regarding the encouragement of democracy world-wide, he counsels patience and self-reflection, because while the reconstruction of civil societies remains the first priority, there can be no prefabricated or "gift" democracies. Democracy must be seized, he says, and built "slowly, culture by culture, each with its own strengths and needs, over centuries" (p. 278). Although he expresses some skepticism about information technology, he warns against being Luddites. The challenge is to get information technology to serve civil society, broaden and deepen civic communication, and improve the literacy of all citizens, and hence ally it to democracy. Finally, it is necessary to remove the roadblock of "spiritual malaise," which not only makes McWorld more empty but Jihad more possible.

Summary

To Barber, the most important dynamic in the world is now the battle between the selfish "What's in it for me?" and the suspicious "What's in it for them?", and the collateral damage to the civic-minded "What's in it for all of us?" Greed against fear against trust. Barber's civics lesson is familiar (i.e., democracy is an elementary goal, there are common goods, and there are externalities and unintended consequences), but it is made compelling by its synthesis and update and by his incorporation of a current and indeed forward-looking view of McWorld.

He confronts us with crucial questions: Who protects the public interest? How do we preserve democracy? Within his rejection of Jihad, he asks: How can individuals find their identity in this world? Can people find a model of spirituality that is also civic-minded? And his critique of McWorld, in particular—because it cannot be dismissed as an outright rejection of commerce, but serves as a call for reprioritization or rebalancing—commands marketing theoreticians to reexamine the system-wide implications of what they do and rededicate themselves to the ends people value, which are not the same as the market-based means they tend to prefer and promote.

Apart from his McWorld and Jihad backdrops, Barber's is not new or unique territory in recent scholarly or popular writing. His book does stand both as complement and contrast to van Raaij's (1993) commentary on postmodernism, Ohmae's (1995) enthusiastic eulogy for the nation-state, and Davidow and Malone's (1992) or Drucker's (1993) visions of the future of commerce. On the key issue of new information technologies, Barber occupies a troubled middle ground between such authors as Negroponte (1995) or Rheingold (1993), who believe that technology provides the means for new, even more vibrant forms of community, and others such as Putnam (1995), who would begin the rebirth of civil society by turning off every television. Barber's differences with

the popular books by Kennedy (1988) and Fukuyama (1992, 1995) make them all worth rereading.

Barber's topic is pertinent and timely. Whether shaped by him or by other commentators, the central idea of a civil society distinct from state, corporation, and religions probably will be the most influential paradigm and galvanizing idea, at least in American debate, for years to come.²

Barber's claim that the book extends a "provocative idea" into an argument that is "sustainable" is unsubstantiated unless *sustainable* means *sustained*, as in *filibuster*. For this and other deficiencies previously discussed, it would be tempting to conclude that Barber is himself a victim of the pernicious cheapening effects of the McWorld that he decries. More likely, he is exploiting masterfully the irony of the situation: Although the Jihad-vs.-McWorld framework is lacking, it is designed not to serve the audacious "front"—reducing a complex world to a simple yin and yang—but to entice readers to examine its hidden and more important purpose, namely, creating a future for Western democratic society.

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Mrs. Cage

By Nancy Barr (New York: Dramatists Play Service, Inc., 1993, 35 pages, \$4.75)

Consumption as Communication in the World of Mrs. Cage

When Marshall McLuhan (1964) suggested that "the medium is the message," he overstated his case to affirm that the technological characteristics of information channels tend to shape the nature of their personal impacts and societal effects. I have sometimes felt a McLuhanesque temptation to overstate the role of symbolic con-

sumer behavior in art and popular culture by declaring that "the consumption is the communication." Such a proclamation could draw support from the burgeoning literature on the symbolic meanings of possessions (e.g., Campbell 1987; Csikszentmihalyi and Rochberg-Halton 1981; McCracken 1988) and call on documentation provided by studies showing the significance of consumer behavior in television programs (Hirschman 1988) or films (Holbrook 1988; Holbrook and Grayson 1986). Moreover, I could make a case for the proposition that—in some works of art and entertainment—the meaning of the communication hinges largely on the nature of the consumption experiences portrayed therein (Holbrook and Hirschman 1993). Recent examples that have moved in this direction include such motion pictures as *9 1/2 Weeks*, *White Palace*, or *Short Cuts* and such novels as *The Mezzanine*, *Room Temperature*, or *Vox* by Nicholson Baker (1988, 1990, 1992).

These examples loom in importance because they illustrate the extent to which marketing-related phenomena can, in principle, serve as the *raison d'être* for the products of contemporary culture. In these cases, consumption symbolism and marketing imagery go beyond their conventional status as ways of shaping meaning and assume a central role in embodying the whole point of an artistic creation. Ultimately, a person easily can imagine that this privileging of consumption in works of art could reach an extreme that would take over the meaning of the artwork entirely. But a person seldom observes transparent cases that can serve as textbook examples of such an exaggerated focus on consumer behavior.

A pellucid illustration of the elusive phenomenon in question appears in *Mrs. Cage*, a one-act play by Nancy Barr (1993), which premiered at the Two Light Theatre in Santa Monica, California (September 21, 1990), and later was presented as a segment of *American Playhouse* (May 20, 1992) on public television (e.g., WNET, Channel 13, New York). Because I believe that *Mrs. Cage* provides a striking case of an artistic work in which the consumption is the communication, I offer a brief interpretation of it—focusing primarily on the published version under review here, but with an occasional insight based on the television production, which starred Anne Bancroft as the title character.

Centering its themes around the role of consumer behavior and marketing in everyday life, the play focuses on the consumption experiences of Lillian Cage, a 55-year-old upper-middle-class housewife who confesses to a somewhat uncouth but compassionate police officer (Lieutenant Angel) that she has committed a violent and seemingly inexplicable murder in the parking lot of the local supermarket. The dramatic impact of this play rests on the unraveling of her motivation for this shocking crime. In support of my contention that consumption is communication, I argue briefly that this motivation stems directly from the marketing-related activities of daily consumption.

On the surface, a person might account for Mrs. Cage's crime as the act of a crazed, love-sick matron who has developed a crush on a young fellow named Billy, who is a bag filler and box boy at the supermarket. Like a romantically heroic cowboy, Billy spends much of the day "rounding up" doggie-like shopping carts in the parking lot (which he groups into chains of four-wheeled metallic critters) and "herding" these cattle surrogates back to the central store while singing happily to himself the theme song from *Rawhide*:

Rollin', rollin', rollin',
Though the streams are swollen,
Keep them doggies rollin', Rawhide ...
Through rain and wind and weather,
Hell-bent for leather,
Wishin' my gal was by my side (pp 14-15).

Billy flashes his romantic cowboy smile at Mrs. Cage: "He flirted with me. It knocked me off my pins" (p. 16); "He could mutter small inanities to rip your heart in two" (p. 14). Mrs. Cage describes Billy adoringly:

²The atrophying of American civil society already makes regular appearances in the popular press (e.g., Lewis 1995)

A little red vest, a cheap white shirt, a pitiful black bow tie—one of those terrible snap-on things.... He was really remarkably ... dexterous. He tossed the cans from his right to his left and then into the bag like lightening.... He asked if I wanted paper or plastic, and I said: "Paper, please." And then he looked at me and grinned ... and I felt about seventeen (pp. 16–17).

But Billy's heroism goes beyond his ability to round up the "silvery herd" (p. 22). When a purse snatcher runs off with a handbag belonging to another shopper named Phyllis Dean, Billy chases him and knocks him down—only to be shot in the chest by the assailant, who then escapes with the handbag, leaving behind his loaded gun. As Billy lies dying and moaning ("It really hurts"), Phyllis Dean screams: "Stop that man! He's got my purse! Somebody stop that man!" (p. 7). Mrs. Cage picks up the discarded weapon, aims it carefully, and shoots the screaming woman in the head—literally "right between the eyes" (p. 7).

However, the deeper and more profound causes for this murder hinge on marketing-related phenomena associated with the symbolic consumer behavior surrounding Mrs. Cage's consumption-oriented role as a housewife and mother. Indeed, the unmasking of this theme constitutes the central dramatic tension of the play. As the dialogue between Mrs. Cage and Lieutenant Angel unfolds, we see that her life as a consumer has compelled the crime she has committed.

Mrs. Cage's typical day consists almost entirely of two consumption-oriented activities. The first involves ironing her husband's shirts; the second concerns shopping for fresh groceries at the supermarket. Both occupy positions of heightened importance in her life.

Mrs. Cage invests the ironing of the shirts with deep significance, because these beautiful and freshly pressed garments support the performance of her husband—a highly successful lawyer who (somewhat to Mrs. Cage's consternation) defends criminals brilliantly and who sometimes needs as many as two or three shirts a day. She delivers these shirts to him in fulfillment of her wifely chores and in her capacity as a sort of *Habilement* Angel of Mercy: "When Martin's in trial, he needs two shirts a day. But on very tough cases, he gives me a call, and there I am: running up the courthouse steps with one more shirt on a hanger" (p. 21). Thus, in the eyes of Mrs. Cage, the legal triumphs of her husband depend on her skills as a laundress. She sees her *métier* as one of devoted support:

By four o'clock I've finished ironing Martin's shirts. I've starched the collars and pressed the cuffs. They're pinpoint oxford button-downs, imported cotton, mostly white, 16-35s. Some blues, of course, and ecru, some pinks and stripes and tattersalls; immaculate, every one.... I've made them look immaculate, and I suppose I've taken pride (p. 10).

For Mrs. Cage, ironing Martin's shirts is an act of loving duty as a wife. It is her job—the essence of her existence.

In the television production, which differs from the published play in only a few details, the viewer first sees Mrs. Cage in the act of ironing. She meticulously finishes each shirt and hangs it in a tidy array of similarly impeccable clothing in her husband's impressive closet. (I counted 33 shirts altogether, all stretched out in a neat row.) The viewer then follows Mrs. Cage into her beautifully appointed kitchen, which is the locus of the second main phase of her diurnal consumption activities, namely, shopping. As Mrs. Cage insistently tells Lieutenant Angel during her first speech in the play, she visits the supermarket every day: "I go to the market daily.... I suggest you jot that down" (p. 9). Sympathetic consumers know that this compulsive shopping behavior must waste a lot of time. But, Mrs. Cage perceives it as her wifely duty: "To each his own. I choose to do it daily" (p. 10).

In these habits of consumption, Mrs. Cage contrasts strongly with her daughter Elizabeth. Like her father, Elizabeth is also a successful lawyer—but in civil rather than criminal law: "She says it's more lucrative. Lucre.... Such an ugly sound" (p. 11). But, unlike her mother, Elizabeth has no housewifely respect for family or the hallowed rules of proper consumption. Thus, she has decided to divorce her husband, a choice that baffles the conventional Mrs. Cage: "I don't understand divorce. 'Til death do us part. That's the vow. Death. Death (!)" (p. 23). Even worse is that Elizabeth negligently lets parking tickets pile up without paying them until they accumulate to hundreds of dollars in fines: "My daughter gets dozens of parking tickets. She doesn't care. Parks anywhere, any time, pays it off at the end of the year when she renews her registration. Isn't it strange? Hundreds and hundreds of dollars spent for heedlessness, carelessness" (p. 18). And, to save time, Elizabeth shops only once a week. As Mrs. Cage tells the Lieutenant with undisguised scorn, she freezes her meat: "My daughter ... sees things differently. Does her marketing once a week. Freezes the meat.... And just the other day, Martin declared, 'Elizabeth seems so brazenfaced!'" (p. 10; note the old-fashioned use of the term *marketing* to mean *shopping*).

Clearly, Mrs. Cage feels at odds with her daughter—primarily over Elizabeth's departures from what Mrs. Cage regards as proper consumer etiquette. Indeed, as Mrs. Cage's account of the murder continues, it becomes increasingly clear that she associates her own daughter Elizabeth with Phyllis Dean, the woman she has killed. If traced carefully throughout the play, the similarities between Elizabeth Cage and Phyllis Dean are striking. Phyllis is divorced, has no children, and is in her early 30s; Elizabeth is getting a divorce, has no children, and is 34 years old. Elizabeth shops only once a week and freezes her food; Phyllis buys convenience foods and other "garbage." Both women accumulate hundreds of dollars in parking tickets. Both are tall, thin, blonde, and attractive careerists concerned about lucre (Elizabeth) or a purse (Phyllis). Both are explicitly described as "brazenfaced" (p. 10, p. 33). And, whereas Elizabeth Cage does not like her mother "very much" (p. 27), Mrs. Cage confesses that she does not like Phyllis Dean "very much" (see the concluding words of the play, p. 34).

Thus, Mrs. Cage appears to confuse or confound the victim with her own daughter and even tells Lieutenant Angel,

"I feel confused about the victim, Phyllis Dean. But I feel deeply sorry, deeply aggrieved, for the victim's mother. Will they let me die in the gas chamber?"

"Is that what you want?" asks the Lieutenant.

"Wouldn't you?" replies Mrs. Cage, "If someone shot *your* daughter" (p. 18, emphasis added).

Clearly, in shooting Phyllis Dean, Mrs. Cage has symbolically killed her own daughter Elizabeth. A major part of the motivation for this symbolic "filicide" occurs when Elizabeth commits the unpardonable offense of deprecating her mother's activities at the ironing board by suggesting that Mrs. Cage should just send her husband's shirts to the laundry:

"What are you doing, Mother? Laboring over the ironing board? Pressing the dickens out of daddy's cuffs? Honestly, Mother, what a waste of time, what a meaningless, menial waste of time. For once in your life, would you send them out. Would you just get with it and send them OUT!" That's what she said. My daughter. That's what she said to me (p. 26).

Elizabeth's suggestion raises a deeply threatening possibility, namely, that Mrs. Cage's daily act of devotion is not really necessary, that it is, in fact, superfluous or even demeaning. This threat comes to a head when—not maliciously, just carelessly—her hus-

band, Martin, agrees that it would not matter if she paid someone else to do his shirts:

It hit me like a blow.... After all these years. Something Martin said... It was something awful ... something I never expected to hear.... "Lillian," he said, "Why don't you send them out?".... He was referring to the shirts . He said it very casually, as though it were nothing at all: "I think you should consider it, dear, just to get her off your back. It's not as if we can't afford it, and it doesn't make any difference to me" (pp. 26–28).

In one moment of absentminded thoughtlessness, Martin Cage dissolves his wife's whole reason for existence; he erodes her entire purpose for living. Mrs. Cage must confront the fact that the daily act of devotion—the domestic responsibility to which she has consecrated her role as a housewife and consumer—means nothing to her husband: "That's what he said, just like that. 'It doesn't make any difference to me'" (p. 28). The truth that he does not care devastates Mrs. Cage:

After that, I did the dishes. I didn't dry them though. I let them stand, I let them go ... And then the following day, when he went to work, I just went back to bed. I wasn't sure how to resume. I wasn't sure how to go on.... Oh dear God.... It really hurts. . It really hurts.... (... *crying uncontrollably*) (pp. 28–29; note the echo of Billy's last words)

All these consumption-oriented tensions and frustrations culminate when Mrs. Cage encounters Phyllis Dean at the supermarket. First, the woman honks at Mrs. Cage impatiently in the parking lot before parking her own car illegally in the space reserved for handicapped people. This, of course, reminds Mrs. Cage of the infuriatingly wasteful habits of her own daughter, "Elizabeth the Scofflaw." Indeed, Mrs. Cage explicitly evokes a recollection of Elizabeth by describing Phyllis Dean's parking behavior as "brazenfaced":

She was out to get her groceries. She seemed to be in a rush. When I finally found a parking space, I heard her honk her horn. She was leaning on her horn. She was screaming obscenities. She seemed to think I had cut her off. I hadn't cut her off .. Eventually, she just drove on. I watched her park her car. She parked her car, with impunity, in the space reserved for the handicapped... She wasn't handicapped. .. She was physically fit and brazenfaced (p. 33).

Second, Phyllis Dean violates another sacred rule of shopping behavior by committing the unpardonable sin of entering the express line with too many groceries. This act of consumer deviance prompts two of Mrs. Cage's most impassioned diatribes:

Phyllis Dean .. was very remiss in the rules, the rules of the check-out stand. She wheeled up right in front of me, as I stood in a lane which was very clearly designated "eleven items or less." Her cart was stacked with toiletries and diet drinks and low tar cigarettes. An assorted array of convenience foods, an endless array of garbage. I counted the boxes one by one (p. 33).

She stood in the express lane with more than eleven items. In fact, she stood in the express lane with twenty-seven items. No coupons, she didn't have coupons. But, she wrote a check. Grounds for murder, don't you think? (p. 17).

Third and most unforgivable, Phyllis Dean insults Mrs. Cage's sensibilities by ordering Billy to carry her grocery bags, thereby reducing Mrs. Cage's romantic cowboy-like hero to the status of servile errand boy:

And Billy was there, putting her garbage into her bags, never complaining, simply submitting, just doing his daily job. And then that woman ordered him to help her with her bags. "Young man," she said, "Young man, I'll need some help with these." Billy, of course, obeyed .. She led him out the door. ...he had to follow her to the space for the handicapped (pp. 33–34).

To Mrs. Cage, this woman's offenses against the norms of consumption deserve punishment by death. Someone guilty of such brazen-faced shopping atrocities needs killing. This is the logic that propels Mrs. Cage as she coolly picks up the abandoned gun and puts a bullet in Phyllis Dean's brain. Mrs. Cage refuses to admit that she acted out of passion or momentary insanity. She insists that she knew exactly what she was doing and that—as a wronged consumer who makes rational decisions—she had no choice.

After the gunman stole her purse, and Billy ran to the rescue, and after he gave his life for hers—she screamed and screamed and screamed. She screamed about her fucking purse! .. I decided to stop her screaming. I decided to shut her up.... I grabbed the gun and held it .. with both hands. I chose to aim it carefully I chose to pull the trigger. It was a conscious decision. It was wrong and rash and evil—but it certainly wasn't insane, momentary or otherwise.... And now ... I confess to the murder of Phyllis Dean!... I killed the woman! Period! I DIDN'T LIKE HER VERY MUCH! (p. 34)

Note that any number of cultural artifacts have portrayed the possible links between societal problems or individual psychopathology and consumer *mis*behavior. For example, in *Falling Down*, the protagonist D-Fens (played by Michael Douglas) abandons his car in traffic, vandalizes a convenience store, shoots up a fast-food restaurant, and kills the neo-Nazi proprietor of another retail establishment. But, in what one reviewer called "a spectacle of civil despair" (Canby 1993, p. C3), all these manifestations of aberrant consumption constitute symptoms of the malaise visited upon D-Fens by family problems, difficulties in his career, and traumas from his earlier life. Indeed, Joel Schumacher, the film's director, articulated its meaning by explaining, "I wanted to make a film [about] a man acting out" (Reinhold 1993, p. A11).

In contrast, in *Mrs. Cage*, the root cause of the horror that occurs is ordinary consumption itself. Lillian Cage represents an affluent, well-educated, middle-class housewife undone by her role as homemaker—a role as conventional as it is insidiously destructive. Overall, this play presents a dark view of consumption in the consumer culture as a force of such potential evil that it can account for the most heinous of crimes.

Clearly, *Mrs. Cage* has much to say about the inequities that have characterized the traditional role of women in our society. Though the picture changes ever so gradually as increasing numbers of women enter the labor force, any feminist can recount innumerable adverse consequences of women's place in the culture of consumption—among them the debilitating state of being taken for granted, which afflicts Lillian Cage. In this context, it carries much weight that the actress Anne Bancroft identifies strongly with the role she played in the television production: "I understand this woman .. I am this woman. All of her is *me*. I almost knew instinctively what she was going to say next.... Yes, of course I identify with Mrs. Cage.... I identify very much with her emotional life" (Weinraub 1992, p. C18). Commenting on the way in which Hollywood tends to cast aside its leading ladies as they grow older, Bancroft complains that her own "difficulties finding roles" mirror "the plight of Mrs. Cage": "People say I'm irrelevant all the time.... People ... say ... my work is unimportant at the moment because what they want is Arnold Schwarzenegger" (Weinraub 1992, p. C18). If an acclaimed Tony- and Oscar-winning actress can feel this way, a person hardly need wonder that far more powerful and

destructive emotions might fill an intelligent woman unintentionally consigned but consciously resigned to the role of ironing shirts as props for her husband's courtroom dramas.

What then should scholars interested in marketing-related phenomena make of the play titled *Mrs. Cage*? Apparently, for their purposes, the moral is that sometimes the consumption is the communication. Thus, this grim and grizzly drama makes a case for the centrality of consumption as the essence of the human condition—a condition in which, as the name of its unfortunate heroine implies, we are all potentially “caged.” The point is if art mimics reality and if, in art, consumption is communication, then in the world of reality, consumer behavior is the fundamental stuff of everyday lived experience. The concluding stage directions instruct the lighting designer on how to emphasize this lesson without mercy:

A sudden blinding light on Mrs. Cage has the effect of exposing the bones behind her skin. Hold it. And fade. And up on the shirts in garish hues. And fade on the shirts.

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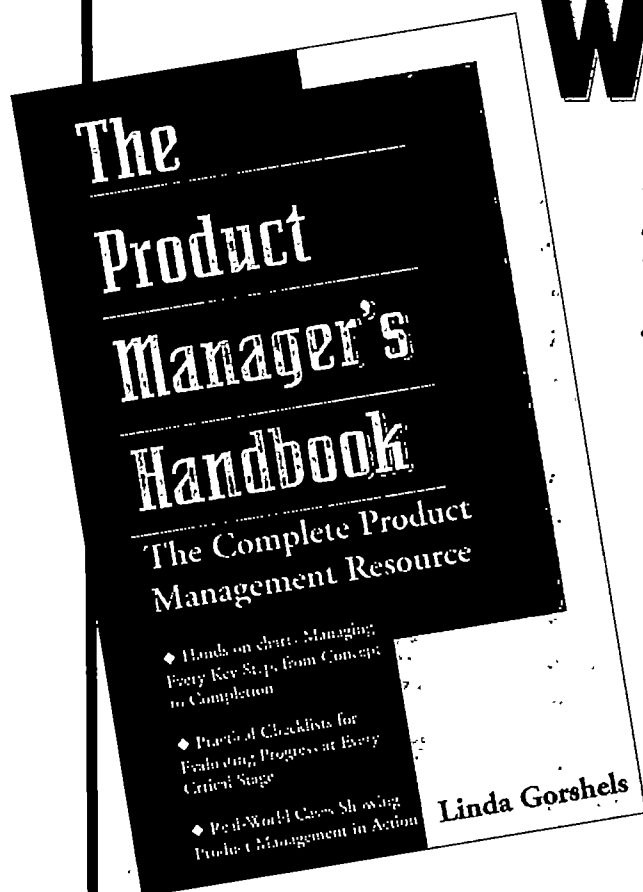
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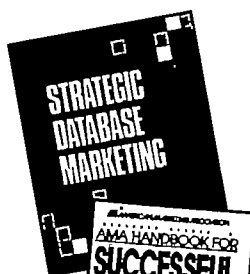
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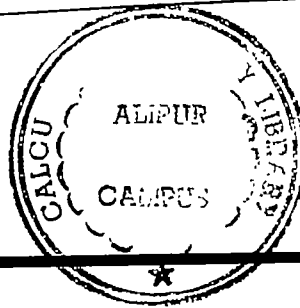


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Shelby D. Hunt is the J. B. Hoskins and P. W. Horn Professor of Marketing, Texas Tech University and Robert M. Morgan is Assistant Professor of Marketing, University of Alabama.

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Can Package Size Accelerate Usage Volume?

Packaging influences usage behavior long after it has influenced purchase. Managers of consumer packaged goods and public policy officials have, therefore, questioned whether a package's size influences usage volume. Although often assumed, it has never been supported. Four laboratory studies and a final study in a Laundromat identify circumstances in which larger package sizes encourage greater use than do smaller package sizes. Unit cost is a key factor mediating this relationship. After noting useful implications for decisions regarding package size portfolios, sales promotions, and public policy, the author concludes by identifying other important but overlooked factors that increase usage volume and provide research opportunities.

Increased competition is forcing brand managers of consumer goods to alter the portfolio of the package sizes they offer (Elliott 1993). In making these decisions, managers are beginning to speculate whether larger package sizes accelerate a consumer's usage volume of particular products. Indeed, a recent memo distributed within a large packaged goods company encouraged brand managers to "rethink how package sizes and shapes influence (pouring) volume" before making package-related decisions in their product line. In effect, the interest of these managers is shifting from how consumers *choose* brands to how they *use* them (Wansink 1994a).

Although some managers assume that larger package sizes encourage consumers to use more (per usage occasion) than smaller package sizes, the support is only anecdotal and these assumptions are becoming a source of controversy. Managers are interested in selling more of a product, whereas public policy officials are interested in decreasing the amount that a consumer wastes (Shapiro 1993). At the center of this issue is the relationship between package size and usage volume. My aim here is to help clarify this issue by (1) empirically determining whether package size has an impact on the usage volume of branded products and (2) investigating the reasons for any such impact.

Folkes, Martin, and Gupta (1993) suggest that compared to small packages, one reason large packages might be expected to encourage greater use is because consumers would

be less concerned about running out of the product. The greater the supply of a product (e.g., large package), the lower the transaction (replacement) costs for using the product and the greater the volume people are willing to use (Lynn 1992; Worchel, Lee, and Adewole 1975). Another possible reason that has not yet been investigated is that unit costs often vary inversely with package size. Because products from large packages are generally less expensive (per unit) than those from small packages, they may be used in greater volume. Understanding why package size might accelerate usage has important marketing mix implications. If any usage-related differences are caused by unit cost perceptions, there are pricing and promotion implications. If they instead are caused by supply perceptions, there are package size and multipack implications.

With usage variant products it is hypothesized that package size has a positive impact on product usage that can at least be partially explained by differences in unit costs.¹ I systematically test this notion in four laboratory studies and one field study by isolating the hypothesized effect of unit costs on usage volume from effects that could instead be misattributed to other explanations, such as supply. I then discuss implications for decisions regarding package size portfolios, sales promotions, and public policy. I conclude by identifying product-related, situation-related, and package-related factors that increase usage volume and provide further research opportunities.

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¹*Usage variant* products have elastic demand functions because they have a high degree of substitutability or are able to create their own demand when salient. These products' usage volumes are most affected by package size, and they are likely to include most foods and household cleaning products (70% of consumers use a quantity different from the amount recommended—Friedman 1988). *Usage invariant* products, in contrast, have price insensitive demand functions and are unlikely to be affected by package size differences. These include most personal care products, such as toothpaste and contact lens cleaner, and products with negative consequences to overuse, such as medicines, some solvents, and certain cooking ingredients.

Background

Although no research has shown that package size directly influences usage volume, there is much folk wisdom and many anecdotes as to why researchers expect such a relationship. Such notions range from suggesting that large-size packages are more difficult to control and are subject to overpouring (Stewart 1994) to suggesting that people are more willing to “finish-up” large-size packages because they take up too much space in household inventory (Hendon 1986).

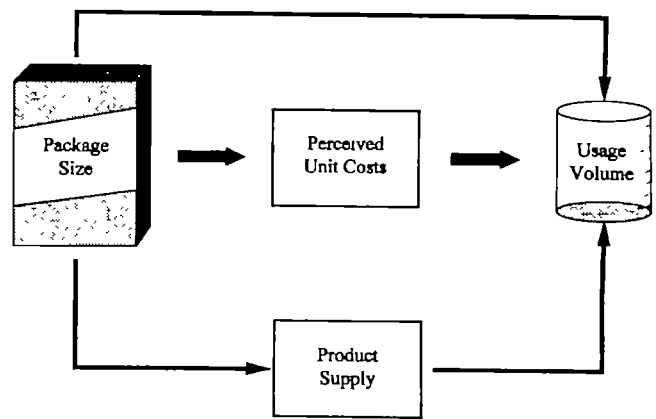
A common explanation that has been offered emphasizes the transaction (replacement) costs associated with replacing a depleted product. If depleting a product necessitates an inconvenient trip to the store (or to the pantry), consumers might use smaller packages more sparingly than larger ones. This is consistent with findings that suggest that scarce resources are conserved because they are overvalued (Lynn 1989, 1992; Worchel, Lee, and Adewole 1975) and less immediately accessible (Brock and Brannon 1992). In a package context, the greater the supply of a product (i.e., large packages), the lower the transaction costs for using the product and the greater volume people are willing to use.

Another explanation that has been largely overlooked is that any such package size effects may be attributable to unit cost differences. The *unit cost explanation* is as follows: If larger packages have lower unit costs than smaller packages, they should be used more freely. When considering usage variant products, any factor that decreases the perceived unit cost of that product should correspondingly increase usage (cf. Becker 1987). Package size is one such factor. Large packages are perceived as having lower unit costs than medium-size packages, and medium-size packages are perceived as having lower unit costs than small packages.² As

²Although it is assumed that larger packages are perceived as having lower unit costs than smaller packages of the same product, both consumer perceptions and the empirical reality of this were investigated. Empirical support was found by examining the regular prices of 21 national brands in 21 different product categories across three grocery stores located in Menlo Park, California; Sioux City, Iowa; and West Lebanon, New Hampshire. The 21 brands represented a convenience sample of products that could be purchased in three package sizes and were available at all three stores. For 19 of the 21 brands, the large package was less expensive per unit than the medium package. For 21 of the 21 brands, the medium package was less expensive per unit than the small package.

The assumption that larger packages are perceived to have lower unit costs than smaller ones was also supported by a study with 83 consumers. Consumers recruited through Parent-Teacher Associations in New Hampshire were shown these 21 brands and asked to estimate the price of each across three different sizes. Unit prices were calculated from their estimates. For 20 of the 21 products, consumers estimated (at the $p < .01$ level) that the large package was less expensive per unit than the medium package. For all 21 products, consumers estimated (at the $p < .01$ level) that the price of the medium package was less expensive per unit than the small package. Although a perfect inverse relationship between package size and unit cost may not be consistent across all sizes of all packaged goods products in all countries, segments of consumers have this perception in the United States. These perceptions are important because they indicate that a unit cost heuristic may be available for consumers to evoke when they are using a branded product with which they are familiar

FIGURE 1
The Impact of Package Size on Usage Volume



a result, if lower unit costs are associated with large packages, large packages should stimulate greater usage volume than small packages. There should be, however, an eventual point of satiation, at which usage volume levels off (Boice 1984).

I hypothesize that larger packages encourage greater usage volume (per usage occasion) than smaller packages and that a portion of this usage is influenced by the perceived unit cost of the product. It is likely, however, that usage volume is influenced by several different factors (see Figure 1). To investigate two of these factors—unit costs and product supply—four laboratory studies and one field study were conducted. Study 1 directly tests whether package size increases usage volume. By controlling the fill-level (supply) of differently sized packages, I investigate whether package size has an impact on usage that is independent of supply. This is a key departure from supply studies, because it disentangles the confound between package size and supply. Study 2 indirectly tests the unit cost hypothesis by determining if there is a package size effect for bottled water but not for tap water (a product perceived as “free”). Study 3 directly manipulates unit costs (i.e., sales-priced versus regular-priced) to determine whether they have an independent impact on usage. Study 4 examines the extent to which this relationship is curvilinear as packages become larger. In Study 5, I demonstrate the differential effect of package size on usage variant and usage invariant products in a field study at a Laundromat.

Study 1: The Effect of Package Size and Fill Level on Usage Volume

If large package sizes are associated with lower unit costs, which in turn influence usage volume, then this relationship must exist even when I control for supply. For instance, suppose one person pours a liquid cleaner from a half-full two-liter bottle and a second person pours from a full one-liter bottle. Although both bottles have the same amount of liquid in them (one liter), the person pouring from the half-full two-liter bottle should be less concerned about the cost of pouring a given volume of liquid and should, therefore, pour

a greater volume. In contrast, if the same amount of liquid is poured from both bottles, I would conclude that package size has no independent impact on usage and operates only by altering the product's supply level.

Study 1 tests the hypothesis that the larger a package's size, the greater the volume a person uses on a given occasion. This is accomplished by altering package size while holding the total supply of the product constant. In all of the reported studies, I investigate familiar brands in regularly used product categories.³

Method and Procedure

Adult subjects were recruited through Parent-Teacher Associations (PTAs) in New Hampshire and Vermont, and \$6 were donated to the respective organization for each of the 98 women who participated. Two different products (Crisco oil and Creamette brand spaghetti) in two different sizes were selected for the study. In both cases, the larger package held twice as much of the product as the smaller package. The supply for each brand was held constant by leaving the smaller package full and by using only half of the larger package. The volume of each product was determined by the size of the package in which each was sold.

The design of the study is a 2×1 between-subjects design in which package size is manipulated (small or large) and volume is held constant. Each subject was randomly assigned to use either a small or large package. Two products were used for generalizability, and the pattern of results was expected to be similar for both products.

In individual meetings, each subject was told that some basic home economics-related information about two different types of products were being collected. The subject was then led to one of four isolated cubicles in which there was one of the two products in one of the two package size conditions. The research assistant assigned to each cubicle was blind to the purpose of the study. When the subject arrived, the research assistant read a scenario involving the use of the product (Crisco brand oil: "You are frying a chicken dinner for yourself and another adult"; Creamette brand spaghetti: "You are making spaghetti for yourself and another adult"). The subject was asked to show how much of the product she would use in this situation and then how much money that use of the product would entail. (This estimate was divided by the number of units she had used, and the resulting number was used to represent the inferred unit cost for that particular product. Although it is uncertain that consumers can accurately estimate such costs, the relative magnitude of their difference is of greater interest than their accuracy, *per se*.) After the subject left the cubicle, the volume of intended use was measured for the product. The pro-

³The use of branded, regularly-used products can be distinguished from the unbranded bottles of toilet cleaner that Folkes, Martin, and Gupta (1993) asked college students to pour. In effect, if unit cost mediates the relationship between package size and usage volume, researchers are most likely to see a package size effect with regular users of a category who are using a branded product for which they can infer unit costs.

TABLE 1
The Effect of Package Size and Fill Level on Usage Volume^a

Products	Volume Used (standard deviations in parentheses)	
	Small Package (full)	Large Package (half-full)
Crisco brand oil (milliliters)	99 (68)	122* (83)
Creamette brand spaghetti (strands)	234 (131)	302* (136)

^aTotal supply is held constant. Both small packages and large packages contained the same volume of oil or spaghetti.

*Difference poured between the small and large package is significant at the $p < .05$ level.

cedure was repeated for all subjects.⁴ In the studies reported here, subjects were neither encouraged nor discouraged from reading the instructions on the package. Few, however, appeared to read them.

Study 1 focuses on what people do during their first pour of a product. The dependent measure is the volume of the product each subject indicated she would use. Subjects indicated their use of oil by pouring it into a frying pan; they indicated their use of spaghetti by placing it in a large (dry) pot. The volume of oil they used was measured by pouring the liquid into a narrow beaker. The volume of spaghetti was measured by holding the strands together and measuring the circumference with a tape measure; a table was developed that enabled this circumference to be directly translated to a close approximation of an individual count.

Results and Discussion

As is indicated in Table 1, the hypothesis that the larger a package's size, the more of a product a person uses was confirmed across both products. A t-test for the oil indicates that there was a difference between the usage of the small and large packages (99 versus 122 milliliters; $t_{96} = 2.3$; $p < .05$), even though each contained the same supply of oil. Similar results were found for the differences in spaghetti usage across the small and large packages (234 versus 302 strands; $t_{96} = 2.6$; $p < .05$). Package size accounted for a statistically significant percentage of the usage variance of both oil ($R^2 = .072$; $F_{(1,96)} = 4.9$) and spaghetti ($R^2 = .068$; $F_{(1,96)} = 4.5$).

An inferred measure of unit cost was calculated by dividing each subject's cost estimate for the volume she used by the number of units (e.g., milliliters of oil or strands of spaghetti) she used. As is consistent with the unit cost hypothesis, subjects believed that the per unit cost of the large package was less expensive than that of the small. This was true for both the oil ($t_{96} = 2.2$; $p < .05$) and the spaghetti ($t_{96} = 2.9$; $p < .05$).

⁴A detailed description of the procedures for all the studies and copies of the measurement instruments are available from the author.

Study 2: The Effect of Package Size and Unit Cost on Usage Volume

The results from Study 1 show a positive relationship between package size and usage volume and an inverse relationship between package size and inferences about unit costs. Study 2 directly tests the hypothesis that the lower the unit cost of a product, the higher is the usage volume. To examine this hypothesis, both unit cost and package size were manipulated to determine whether unit costs have an independent impact on usage beyond what can be attributed to package sizes. Package size is manipulated directly, whereas unit costs are manipulated indirectly by examining one product with variable unit costs (Acme brand bottled water) and one perceived as having fixed unit costs of zero (tap water).

The ideal product to use in this study would be one that is perceived as having a constant price per milliliter but is not perceived as being free. Nonetheless, for the purposes of this study, using a free product (tap water) still enables me to test the basic hypothesis that package size does not itself directly influence usage. I expect that subjects use the same amount of tap water regardless of the size of container⁵ from which it is poured but that they use more bottled water when pouring from a two-liter bottle than when pouring from a one-liter bottle.

I also examine a competing hypothesis that people pour more from large packages than from small packages because they use a package's size as an "anchor" (cf. Brown 1953), thereby finding it perceptually congruent to pour more from larger packages. According to this competing perceptual congruity notion, the volume a person pours is proportional to the size of the accompanying package. If differences in usage are only found with bottled water, then this is consistent with a unit cost explanation. Conversely, if differences are found both with bottled water and tap water, then this result is instead consistent with a package size explanation. I predict that a package's size will not influence the use of a product that has no differences in unit cost across package size (e.g., tap water).

Method and Procedure

Adult subjects were recruited from PTAs in Philadelphia, with \$4.50 donated to the respective PTA for each of the 126 women who participated. These subjects had not been involved in any other study of this nature. The 2 × 2 between-subjects design directly manipulated package size (one-liter versus two-liter) and indirectly manipulated unit cost (bottled water versus tap water). These products were chosen because (1) they are similar, (2) bottled water has (as do all bottled drinks) a significant cost-per-milliliter difference between one- and two-liter sizes (ratios of the regularly priced products are .067¢ and .045¢ per milliliter), and (3) tap water has no perceived cost per milliliter difference at the residential level.

As in Study 1, subjects were told that some basic home economics-related information about different topics were

being collected. Each subject was randomly assigned to one of the four conditions noted previously and was told, "Imagine that when you get home this afternoon, you go to the refrigerator and take out a container of bottled water (tap water) to pour yourself a drink. To make it easier to pour we've put the water in a pitcher. This afternoon when you get home, how much will you pour?" Efforts were taken to emphasize the source of the water that was in the pitcher. The two pouring stations for the tap water condition were each situated next to a sink and faucet. The two stations for the bottled water condition were accompanied with either an empty one- or two-liter bottle of Acme brand bottled water.

As the directions were being explained, the subject was given a pitcher of water and a large (840 milliliter) clear drinking glass. (The drinking glass was large enough to not constrain how much the subjects could pour.) After she finished pouring the water, each subject was asked how much she thought the amount of water that she poured would cost and how many ounces she believed she had poured. Although the results of all the studies are measured and reported in milliliters, a pilot test indicated that ounces were easier for subjects to estimate accurately than were milliliters.

Results and Discussion

As a manipulation check, the unit cost difference between the one- and two-liter bottles of water was perceived as significantly different (.020¢ per milliliter versus .016¢ per milliliter; $t_{60} = 4.6$; $p < .01$), whereas tap water was perceived as essentially free. Therefore, altering the product was an effective way of manipulating perceptions of unit costs.

An ANOVA was conducted across package size and product. The overall model is significant ($F_{1,123} = 7.8$; $p < .05$), and the results (see Table 2) support the expectation that package or container size influences the usage volume for bottled water but not for tap water. This package size-by-product interaction was significant ($F_{1,123} = 4.6$; $p < .05$).

TABLE 2
The Effect of Package Size and Unit Cost on Usage Volume

Products	Volume Poured (milliliters) (standard deviations in parentheses)	
	1000 Pitcher	2000 Pitcher
Volume Poured		
Tap water	376 (50)	387 (75)
Acme brand bottled water	355 (84)	410* (86)
Perceived Volume Poured		
Tap water	452 (70)	463 (111)
Acme brand bottled water	427 (93)	494* (105)

*Difference poured between the 1000 milliliter and the 2000 milliliter pitcher is significant at the $p < .05$ level.

⁵This study involves different size containers (pitchers) of water. To be consistent with the other studies, I refer to these containers as *packages*.

The usage volume of bottled water increased as the package size increased (from 355 milliliters to 410 milliliters), whereas the usage volume of tap water remained similar across both sizes of pitchers (from 376 milliliters to 387 milliliters). Planned contrasts showed these usage differences were statistically significant for bottled water ($F_{1,123} = 4.1$; $p < .05$) but not for tap water ($F_{1,123} = 0.2$; ns).⁶ Package size accounted for 8.3% ($F_{1,123} = 4.7$) of the variance in usage of the bottled water.

Do consumers intentionally pour more from larger packages? Not only did subjects pour more from the two-liter pitcher of bottled water than from the one-liter pitcher, but they also believed they had poured more (494 milliliters versus 427 milliliters; $F_{1,123} = 4.3$; $p < .05$). Furthermore, the cost of what they had perceived as having poured was relatively similar across both the large and small pitchers (20.8¢ versus 23.1¢). Such findings are consistent with the notion that subjects are aware that they are using more from larger packages, and these findings are inconsistent with the notion that consumers simply pour more because of the perceptual congruity associated with large packages.

A test of mediation (Baron and Kenny 1986) indicated that the amount of bottled water a subject poured was mediated by the unit cost she inferred for the product. Although package size is significantly related to the usage volume of bottled water ($F_{1,123} = 7.8$; $p < .05$), so is the unit cost of the products ($F_{1,123} = 9.1$; $p < .01$). When unit cost is added to the ANOVA along with package size, the effect for package size is no longer significant ($F_{1,123} = .8$; ns), and the unit cost variable remains significant ($F_{1,123} = 8.4$; $p < .01$). This is consistent with the notion that package size influences usage volume because consumers believe that large packages are less expensive to use.

There are two primary conclusions from these results. First, in combination with Study 1, the results provide further support that larger packages encourage greater usage. Second, these results are consistent with the notion that this association between package size and usage volume may be influenced by the inferences a person makes about unit costs. That is, when a relatively costless item (tap water) is examined, package size had no impact on usage. This suggests that a packages' unit cost can affect usage volume independently of the package size itself.

Study 3: The Effect of Package Size and Price Promotions on Usage Volume

Studies 1 and 2 show that increasing a package's size can increase usage volume and that these larger packages are as-

sociated with lower unit costs. If unit costs are indeed driving usage, any direct alteration of them should alter usage volume also. One way they can be manipulated is through price promotions. For example, if people believe they have purchased a liquid cleaner at a sizable price discount, they should use more of it than if they did not believe it to be discounted. The primary objective of Study 3, therefore, is to test directly a variation of the hypothesis that was examined in Study 2. I hypothesize that the usage volume of a product increases if it is perceived as being a low-priced product. Along with Study 2, a secondary objective of this study is to eliminate the counter hypothesis that people pour more from large containers simply because these containers are more unwieldy and difficult from which to pour.

Method and Procedure

Adult subjects were recruited through PTA groups in New Hampshire, with \$6.50 donated to the respective organization for each of the 203 group members who participated. A 2×2 between-subjects design was specified that varied sales promotion (regular price, sale price) and package size (small package, large package). To increase the generalizability of the findings, each subject was exposed to stimuli for Mr. Clean brand cleaner, Clorox brand bleach, and Crisco brand oil. The order of exposure to the three products was varied to eliminate any order bias.

Recall that one potential explanation of the package size–usage volume relationship is that large packages may simply be more unwieldy and difficult from which to pour. To address the possibility that package size effects may simply represent “overpouring,” a different method was employed for this study. Instead of actually pouring the product, subjects were shown a full-size photograph of the product. Price promotion information was made salient by an on-package coupon involving a 50% discount (along with the dollar savings). In the photograph, there was a glass container next to the product.

As in Studies 1 and 2, subjects were told that some basic home economics–related information about different types of products were being collected. Subjects were then asked to read the instructions and indicate how much of the product they might use by drawing a line at the appropriate level on the photograph of the glass container. The instructions presented scenarios that involved washing a full load of unstained white clothes (for Clorox brand bleach), cleaning a kitchen floor (for Mr. Clean brand cleaner), and frying chicken (for Crisco brand oil). After completing this task for all three products, subjects were asked to estimate how much each of these amounts would cost and how many times they had used each of these three product categories over the last month.

To determine if this method presented any serious methodological biases, it was pretested with 22 subjects who had been exposed to photographs of Crisco brand oil. The estimates of how much they would use were similar to the amounts of Crisco brand oil that subjects had actually poured in Study 1. From these results, I concluded that the Study 3 method would enable me to determine whether price promotions had the potential to stimulate greater usage volume.

⁶These results are consistent with a similar study involving Diet Pepsi and tap water (Wansink 1995, pp. 9–12). The usage volume of Diet Pepsi increased as package size increased (from 231 milliliters to 334 milliliters), but the usage volume of tap water remained similar across both size containers (from 352 milliliters to 317 milliliters). These usage differences were statistically significant for Diet Pepsi ($F_{1,71} = 4.8$; $p < .05$) but not for tap water ($F_{1,65} = .8$; $p > .20$). The statistical significance of this interaction ($F_{1,131} = 4.5$; $p < .05$) also was consistent with what was found in Study 2.

TABLE 3
The Effect of Package Size and Price Promotions on Usage Volume

Products	Package Size		F-Values (d.f. 1, 199)			
	x	2x	Overall F-Value	Package Size Effect	Promotion Effect	Package Size × Promotion
	Volume Poured (milliliters)					
Mr. Clean brand cleaner ^a						
Sale price	204 (195)	216 (166)	7.4*	4.8*	3.8*	4.2*
Regular price	150 (121)	215 (142)				
Crisco brand oil						
Sale price	139 (102)	141 (95)	6.9*	3.9*	4.6*	4.7*
Regular price	105 (72)	137 (142)				
Clorox brand bleach						
Sale price	192 (133)	186 (121)	1.3	1.2	1.7	2.2
Regular price	176 (186)	190 (127)				

* $p < .05$.

^aPackage sizes: Mr. Clean brand cleaner—414 milliliters and 828 milliliters.
Crisco brand oil—472 milliliters and 944 milliliters.
Clorox brand bleach—289 milliliters and 578 milliliters.

Results and Discussion

It is believed that the unit cost of a product can affect usage volume. The last two studies manipulated this indirectly by altering package size. In Study 3, I directly manipulated unit cost by comparing sale-priced bottles to regular-priced ones. If unit costs influence usage, I expect that subjects will pour more from a sale-priced bottle than from a regularly-priced bottle. The results of this study confirm this hypothesis for two of the three products.

As the means in Table 3 indicate, subjects poured more from sale-priced bottles than from regular-priced bottles for both Mr. Clean brand cleaner ($F_{1,199} = 3.8$; $p < .05$) and Crisco brand oil ($F_{1,199} = 4.6$; $p < .05$). This is consistent with the notion that unit costs can have a direct impact on usage intentions. The effect of price on usage volume was stronger when the bottles were small than when they were large.⁷ Planned contrasts showed this was true for both Mr. Clean brand cleaner (150 versus 204 milliliters; $t_{199} = 4.7$; $p < .05$) and Crisco brand oil (105 versus 139 milliliters; $t_{199} = 3.8$; $p < .05$). One reason why there is no package size effect across the large bottles may simply be because there is

a usage ceiling or saturation point past which there is no additional benefit to using a greater quantity of the product. When a product has a low enough unit cost (either because of being on sale or coming from a large package), further decreases in its cost are unlikely to affect usage volume.

Unexpectedly, neither price nor package size influenced the usage volume of Clorox brand bleach. To determine why this result was different than expected, a focus group was conducted with members of the subject population. The group suggested that the potential downside of using too much Clorox would explain why neither price nor package size affected usage. In effect, Clorox appears to be a usage invariant product.

In summary, results for Mr. Clean brand cleaner and Crisco brand oil are consistent with the unit price explanation. If changes in usage volume are influenced only by perceptions of product scarcity, sale-priced promotions would not have had this impact on usage volume. This price promotion effect provides further evidence that unit costs can have a powerful impact on usage.

Study 4: The Diminishing Impact of Package Size on Usage Volume

Study 3 raises the issue that the relationship between package size and usage volume can be curvilinear. There is a point at which the marginal benefit of using any more of the product becomes negligible. Past this point of saturation, the product is wasted (or even becomes harmful). Results from animal foraging studies suggest that this precise point of sat-

⁷With regularly-priced bottles, 8.1% ($F_{1,102} = 5.5$; $p < .05$) of the usage volume of Mr. Clean brand cleaner and 6.9% ($F_{1,102} = 4.6$; $p < .05$) of the usage volume of Crisco brand oil could be attributed to package size. With the small bottles, 7.0% ($F_{1,98} = 4.8$; $p < .05$) of the usage volume of Mr. Clean brand cleaner and 6.7% ($F_{1,98} = 4.4$; $p < .05$) of the usage volume of Crisco brand oil could be attributed to the sales promotion.

uration depends on the product (Hursh et al. 1988), the individual (Boice 1984), and the situation (Becker 1987). The purpose of Study 4 is to test the hypothesis that beyond a point, progressively larger packages of a product have no impact on usage volume. This should be true regardless of the impact these package sizes have on inferences about unit cost.

Method and Procedure

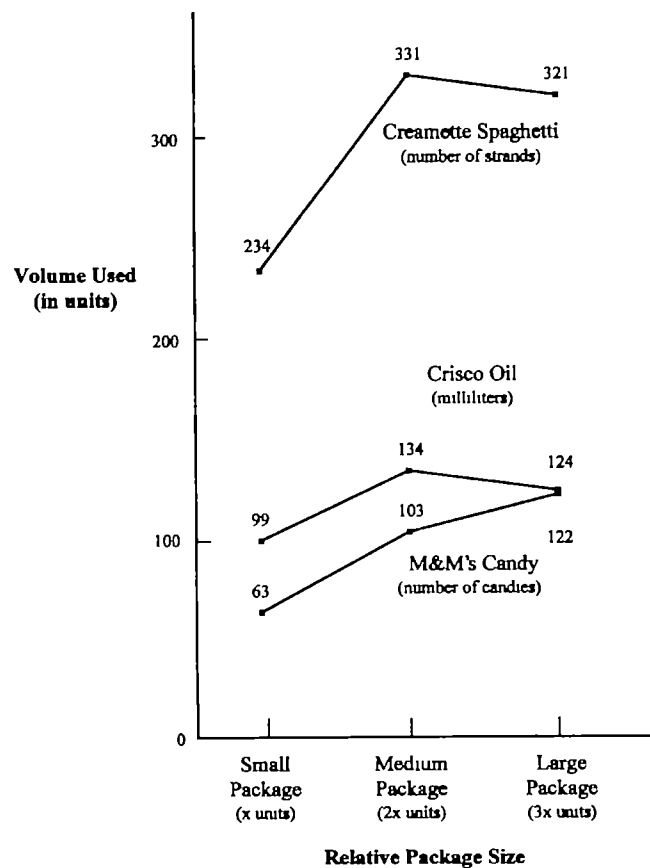
Adult subjects were recruited through PTAs in New Hampshire, with \$6 donated to the respective organization for each of the 184 women who participated. A 3 × 1 between-subjects design was used in which the between-subject factor was package size (x units, 2x units, 3x units), and it was replicated across three brands (Crisco brand oil, Creamette brand spaghetti, and M&M's brand candy); package size was a between-subject factor, and brand was a within-subject factor. The volume of Crisco brand oil was determined by the bottle sizes in which it is sold (472, 944, and 1416 milliliters). The volume of Creamette brand spaghetti was similar in volume to three commonly sold packages (675, 1350, 2025 strands) and modifications were made to ensure an x, 2x, 3x unit relationship. Likewise, the volume of M&M's candy was similar in volume to three commonly sold package sizes, and modifications were made to ensure an x, 2x, 3x unit relationship (114, 228, and 342 candies). Products and quantities (x) were selected and calibrated on the basis of prestudies with a similar subject pool.

Each subject was met individually and told that some basic home economics-related information about three different types of products were being collected. The subject then entered one of three isolated cubicles in which there was one product representing one of the three package size conditions. The research assistant assigned to each cubicle described a brief scenario that involved the use of the product (Crisco brand oil: "You are frying chicken for a dinner for yourself and another adult"; Creamette brand spaghetti: "You are making spaghetti for yourself and another adult"; M&M's brand candy: "You are watching a movie on television by yourself"). The research assistant then asked the subject to indicate how much of the product she would use in this situation.

Again, package size was a between-subjects factor. A third of the subjects were presented the smallest size of the product, a third were presented the middle size, and a third were presented with the largest size. The subject indicated how much she would use and was then taken to the next cubicle to repeat the process for a second product. After finishing with all three products, she was escorted back to each of the three cubicles and asked how much money she estimated her use of each of the products would cost. After the subject left the room, the volume of intended use was measured for each of the three products, the next subject was invited in, and the procedure was repeated.

The dependent measure in this study is the volume of the product each subject indicated she would use. As in Study 1, subjects indicated their use of Crisco brand oil by pouring it into a frying pan; they indicated their use of spaghetti by placing it in a large pot; and they indicated their use of M&M's by scooping them into a bowl. Researchers mea-

FIGURE 2
The Diminishing Impact of Package Size on Usage Volume



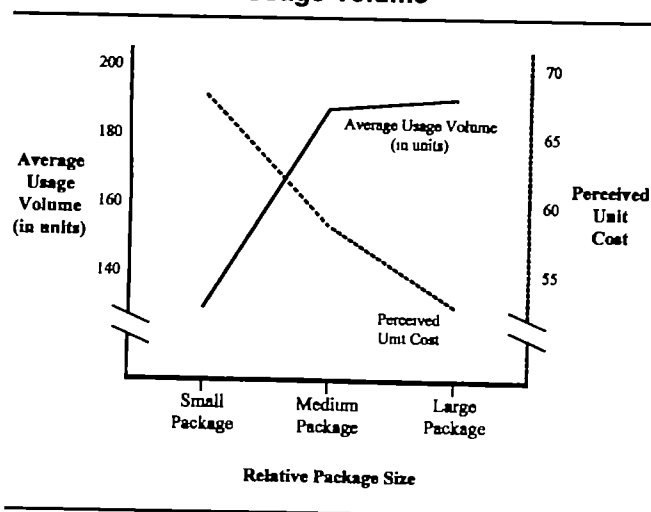
sured the volume of Crisco brand oil by pouring the liquid into a narrow beaker. The volume of spaghetti was measured by holding the strands together and measuring the circumference with a tape measure. The volume of M&M's was measured by pouring them into a narrow beaker, noting the volume, and translating this volume measure to a close approximation of an individual count.

Results and Discussion

It was hypothesized that the relationship between package size and usage volume would be curvilinear, and that after a certain point, progressively larger sized packages of a product would have no impact on usage volume. As Figure 2 illustrates, this key relationship was found for each of the three brands.

One-way ANOVAs conducted across the three package size levels indicated there were mean level differences across package size and across the products for Crisco brand oil ($F_{2,181} = 6.3$; $p < .05$); M&M's brand candies ($F_{2,181} = 5.1$; $p < .05$), and Creamette brand spaghetti ($F_{2,181} = 5.5$; $p < .05$). Planned contrasts for all products revealed, however, that there were no differences in usage between the large- and medium-size packages, but that there was a significant difference between the small- and medium-size packages (Crisco oil: 99 milliliters versus 134 milliliters, $F_{1,181} = 4.6$, $p < .05$; Creamette spaghetti: 234 strands versus 331 strands,

FIGURE 3
The Relationship Between Unit Costs and Usage Volume



$F_{1,181} = 4.7, p < .05$; M&M's candy: 63 candies versus 103 candies, $F_{1,181} = 4.9, p < .05$). The variance in usage that could be attributed to package size was 7.6% ($F_{1,181} = 4.8; p < .05$) for Creamette spaghetti, 7.3% ($F_{1,181} = 4.6; p < .05$) for M&M's candy, and 6.8% ($F_{1,181} = 4.1; p < .05$) for Crisco cooking oil.

The nonlinear impact of package size on usage volume also was confirmed by analyzing the quadratic term in separate regressions for each brand. In regressing usage volume on package size and package size-squared, it was found that the package size-squared term was negative and statistically significant ($p < .05$) for both Creamette brand spaghetti ($t = 3.4; p < .05$) and Crisco brand oil ($t = 4.6; p < .05$), but not for M&M's brand candy ($t = .3; ns$).

As is illustrated in Figure 3, though inferences about unit costs continue to decline as package sizes became larger, these inferences have no impact on usage volume past a particular package level. At some point, the unit costs of a product have no impact on usage, and package size ceases to have any impact on usage.

These results were further supported by a follow-up questionnaire, which suggested that even though consumers believe "more is better" with usage variant products (e.g., foods and household cleaners), they also believe that it is possible to use too much. Of the 39 PTA parents responding to the questionnaire, an average of 34 (87%) agreed that "more is better" when using Mr. Clean or Tide, when eating spaghetti or M&M's, or when drinking soft drinks. Despite holding the "more is better" heuristic, an average of 37 (95%) also agreed that it is possible to use, eat, or drink too much of these products.

Study 5: The Effect of Package Size on Usage Volume in Laundromats

Because the impact of package size on usage volume has shown reliable results in the laboratory, a field study was designed to provide greater external validity. I expect that in a Laundromat setting, package size affects the usage volume

of detergent but not of bleach (which is a usage invariant product).

Method and Procedure

The field study was conducted on three different days at a Laundromat in Sioux City, Iowa. As customers entered the Laundromat, they were greeted and told that a study was being conducted to determine the effectiveness of fabric softener sheets (i.e., Bounce brand fabric softener sheets). They were also told that because fabric softener sheets might react differently with different kinds of detergent and bleach, their use of Tide brand detergent and Clorox brand bleach would help standardize the results. Seventy-four women (94% of those asked) agreed to use the products and answer questions after they were done with their laundry. Of the customers who agreed to be in the study, all were given a box of Bounce brand fabric softener sheets and were randomly given either a 1.19 kilogram or a 2.72 kilogram box of Tide brand detergent and either a 1.89 liter or a 3.79 liter bottle of Clorox brand bleach. They were told they could keep whatever detergent, bleach, and fabric sheets they did not use.

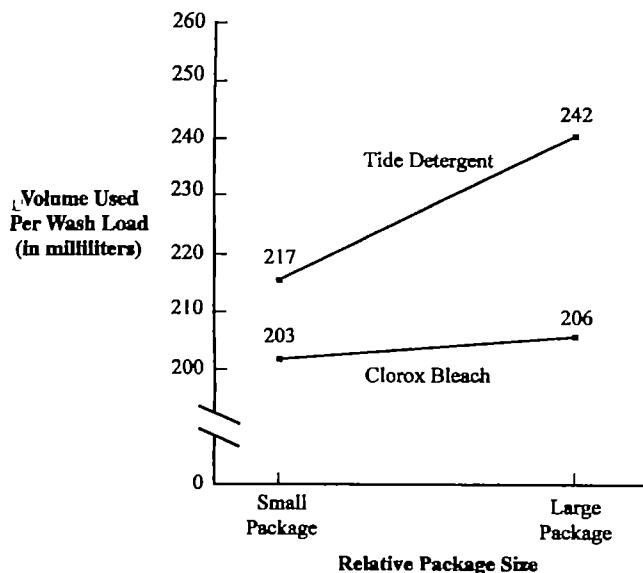
After each customer finished her laundry, she was escorted to her car and asked how many loads she washed that day and in how many she used bleach. Consistent with the cover story, she was then asked three attitude questions ("Do you think fabric softener sheets are effective?" and "Are they more effective on some types of clothes than on others?"). Following this, each customer noted how much she thought the amount of soap (bleach) she had poured would cost and how many ounces she believed she had poured.

Each customer's box of Tide brand detergent and bottle of Clorox brand bleach was weighed to determine the amount used per load. (The volume of what was used was later converted into milliliters per load for ease of comparison). She was then asked about her usage habits, brand preference, and whether she believed, "Using too much detergent (bleach) harms clothes," and whether "The more detergent (bleach), I use, the better." She then noted whether she used the same amount of detergent for each of the loads she had washed. These were answered on 5-point scales (1 = strongly disagree; 5 = strongly agree), and the order in which customers were asked about bleach and detergent was alternated across respondents. Finally, each subject was asked if she knew of the study prior to arriving at the Laundromat. The data from 14 customers were eliminated, because they claimed to have heard about the study from another (12), or had been involved in the study on a previous day (2).

Results and Discussion

It is believed that while detergent is a usage variant product, bleach is usage invariant. Because of this, customers with large boxes of detergent should use a greater volume than those with smaller boxes. In contrast, customers with large bottles of bleach should use a similar volume as those with small bottles. As can be seen in Figure 4, these expectations were supported.

FIGURE 4
The Effect of Package Size on
Usage Volume in Laundromats



The average usage volume per load for the two detergent sizes was compared using a t-test. The results indicate that customers using a large package used 11% more detergent per wash load than those using a small package (242 versus 217 milliliters; $t_{59} = 2.4$; $p < .05$).⁸ Customers also believed they used more detergent when pouring from large packages (267 versus 229 milliliters; $t_{59} = 2.7$; $p < .05$), thus indicating they were generally aware of the volume they poured. As in Study 2, these findings are suggestive of the notion that consumers are generally mindful of the cost of what they use. Indeed, though consumers poured more detergent from the large package, their price estimate of how much they poured was similar to the estimates of those pouring from the small packages (17.5¢ versus 17.1¢; $p = ns$).

As was expected, when comparing the two bottle sizes of bleach, there were no statistically significant differences in usage volume (203 milliliters versus 206 milliliters) or perceived usage volume (197 milliliters versus 210 milliliters). I hypothesized that this usage invariance existed because of the negative consequences to overusing bleach. Indeed, customers who used bleach (41 of 60) considered bleach as more likely to hurt clothes than detergent (6.8 versus 3.1; $t_{40} = 2.5$; $p < .05$) and less likely to help them (2.4 versus 5.5; $t_{40} = 2.5$; $p < .05$).

Based on the procedure outlined by Baron and Kenny (1986), the amount of detergent a person poured was found to be mediated by inferences about its unit cost. Although it was shown that package size is significantly related to the usage volume of detergent ($F_{1,59} = 5.7$; $p < .05$), so are perceptions of the unit cost ($F_{1,59} = 27.0$; $p < .01$). When perceived unit cost is added to the ANOVA with package size, the ef-

fect for package size is no longer significant ($F_{1,58} = 1.5$; ns), and the sums of squares falls from 260 to 39. Perceived unit cost, however, remains significant ($F_{1,58} = 22.8$; $p < .05$). This provides further statistical support for the notion that package size influences usage volume because large packages are perceived as less expensive to use.

The results from this study also indicate that package size can influence usage volume across multiple uses of the product. That is, whereas Studies 2, 3, and 4 examined an initial, "one shot" use from a full package, the average customer in this study washed 4.4 loads of laundry, thus pouring from a progressively less full package. These 4.4 loads resulted in a 109 milliliter difference between customers using the small package and those using the large package. This difference was likely to be the result of usage differences that persisted past the initial pour. Indeed, 57 of the 59 subjects "agreed" or "strongly agreed" that they used the same amount of detergent for each of the loads they washed. Therefore, it appears that this 109 milliliter aggregate difference in usage is the result of 20–30 milliliter differences on each pour and not simply a 109 milliliter difference on the first pour. These findings demonstrate that package size can influence usage volume across multiple uses of the product.

In summary, this final study provides a usage context in which the impact of package size on usage can be directly observed. In combination with the other studies, these findings provide further support for the argument that larger packages encourage greater usage. Moreover, they suggest that consumers are somewhat aware of how much of a product they are using, and this usage volume is associated with the product's unit cost.

Discussion

The results from all five studies show that large packages of familiar, branded products encourage more use than do small packages. Study 1 shows that as the size of a package increases, so does the volume of the product that a person uses. By controlling how full the different packages were, I was able to show that package size has an impact on usage that is independent of supply. This is a key departure from many scarcity theory-based studies, because it disentangles the confound between package size and supply. Study 2 further supports this conclusion by showing that package size influences usage volume only when accompanied with decreases in the product's unit cost. When increases in package size are not accompanied with decreases in perceived unit costs, this relationship is not found. This supports the notion that perceptions of a package's unit cost can influence usage and operate independently of the package size itself.

The results of Study 3 show that price promotions increased usage for two of three products. These results are consistent with the unit price explanation, and they indicate that if package size can alter unit cost perceptions, it also will affect usage. The unexpected finding in this study—the nonsignificant result for Clorox brand bleach—underscores that the usage of some products is more invariant than others. That is, with some products there is a diminishing re-

⁸Package size accounted for 9.7% ($F_{1,60} = 5.7$; $p < .05$) of the variance in the volume of detergent that was used.

turn, or even a negative return, to using a larger volume of the product.

Study 4 further explores this issue of diminishing returns across three different products. The results show that there is a point after which a package's size has no further impact on usage. In other words, at some point, usage becomes unaffected by decreases in unit costs and is similarly unaffected by further increases in package size. The results of Study 4 represent a generalized finding that is consistent with what was found in Study 3. There are certainly diminishing returns to using risky products (e.g., bleach), however, there are eventually diminishing returns to using any product.

Study 5 field-tested the effect of package sizes in a Laundromat. In combination with the other studies, these findings provide further support that compared to small packages, large packages can encourage greater aggregate usage volume. Furthermore, these results show that consumers are reasonably aware that they pour more from large packages and that this relatively greater degree of usage persists to at least the fourth or fifth use of the product. This is important because it indicates that package size continues to have an impact on usage as the fill level decreases.

In these studies, large package sizes consistently increased usage volume. This was true regardless of whether subjects actually used the product (Study 5), whether they indicated their usage intentions by pouring (Studies 1, 2, and 4), or whether they indicated these intentions with pencil and paper measures (Study 3). The importance of having these different methods triangulate on the same construct (usage volume) is underscored by multitrait, multimethod frameworks. Because these different methods concur, there is strong evidence that the phenomena is not simply an artifact of a single method.

The studies show that inferences about unit costs mediate the relationship between package size and usage volume, but it may be possible that other factors also contribute to this relationship. For example, some portion of usage variance also may be attributed to perceptions of replacement costs or the congruity between the package and the container into which the product is being poured. Furthermore, some portion of usage variance may be attributed to the notion that for some containers, the size of the opening increases with the size of the container. In such cases, if a person pours more from a large container than from a small container, it may be assisted by the larger opening. However, even if the size of an opening does influence usage volume, it appears to be overwhelmed by a package size effect: Package size effects were not found for Clorox brand bleach (which have progressively larger opening sizes), but they were found for products that had similar opening sizes (Crisco brand oil, Acme brand bottled water, M&M's brand candy, and Tide brand detergent). Although package size opening may influence usage volume under some circumstances, I am confident that they do not account for the differences in the usage volume reported here.

Managerial Implications

Developing an optimal portfolio of package sizes is becoming increasingly important as costs and competitive pres-

ures force brand managers to reassess the package sizes they offer. Package-related decisions should take into account the size assortments offered by competitors, the size constraints faced by distributors and retailers, the size preferences of consumers (Wertenbroch 1995), and the package's shelf appeal (Garber 1995; Underwood, Klein, and Burke 1996). After accounting for these factors, however, it is important for a manager to realize that packaging influences consumer behavior long after it influences purchase. This has implications for managers who are making package size changes in an existing product line (Chong, Ho, and Tang 1995; Fader and Hardie 1996) and those who are making package decisions for new products (Bloch 1995).

Implications for Package Size Decisions

Package sizes can be modified to either accelerate or decelerate (conserve) usage. As a general rule, if a manager is trying to decide which of two packages to introduce—for example, 20 ounces versus 24 ounces—the larger of the two packages should encourage greater usage volume per usage occasion.

Part of the reason acceleration in usage volume occurs is because larger packages are perceived as less expensive to use than smaller packages. There is, however, a limit to how much spaghetti a consumer would want to eat and how much detergent he or she would want to use. Although this satiation point differs across individual people and products, once it is reached, a large package will have no additional impact on usage volume (recall Figure 2). Although satiation may commonly occur with a medium-size package in one product category, it may only occur with an extra-large package in another category. Before package size decisions are made for a given brand, a brand manager should determine the size at which a package no longer influences usage volume. This can be accomplished using the methodology described in Study 4.

In no context are extreme sizes of products as prevalent as they are at wholesale clubs. Nevertheless, this research indicates that the extreme sizes of packages sold at these clubs may encourage no greater usage volume during a single usage occasion than the next smaller size of that brand.⁹ It may be, however, that the purchase of these extra-large packages influences usage frequency. Previous work has shown that such an increase could be sparked simply by the increased salience (Wansink 1994b) or presence of the product in household inventory (Ailawadi and Neslin 1996; Chandon and Laurent 1996; Wansink and Deshpande 1994). Moreover, high inventory carrying costs (i.e., a shortage of space) could accelerate usage volume of these large packages simply by encouraging consumers to "use them up and make more room."

⁹The findings from focus groups suggest that consumers *believe* they are more likely to "accidentally pour too much from a package than too little." With the availability of uncommonly large package sizes (such as three-liter bottles of soft drinks), this perception about unwieldy package sizes deserves further design consideration, especially insofar as packages can be designed to be more compact or to enable more accurate pouring.

Implications for Pricing and Promotion

One reason consumers use more from larger packages is because they perceive them as less expensive (per unit) than smaller packages. It is not surprising, therefore, that directly decreasing a product's price correspondingly increases usage volume. If perceptions of unit costs can accelerate usage volume, it appears that various retailer promotions, such as "2-fers" (buy two for the price of one), "BOGOs" (buy one, get one free), and multipacks may not only stimulate purchase but also stimulate greater usage frequency simply because of their reduced unit costs.

Although it would thus appear that simultaneously increasing package size and decreasing price (directly or through price promotions) have the maximum impact on usage acceleration, this may not occur. Combining large package sizes with a price promotion may drive the unit costs of a product down to a point at which any further reduction of unit cost (e.g., a deeper price cut or a larger package size) has no impact on usage volume but only leads to the diminishing returns that are noted in Figure 2. Although developing larger and larger package sizes and selling them at deeper and deeper discounts might influence purchase, it is unlikely to influence usage volume (Bawa and Shoemaker 1987).

Indeed, the robustness of the package size effect suggests that the impact might be most reliable across usage contexts if alterations are made in package size *instead* of price. That is, the impact of package size on usage volume may overwhelm any impact that a sales promotion or price change may have otherwise had. This would be especially true if the sales promotion is not salient at the point of usage. Given how inaccurately consumers recall the prices they have paid for products (Dickson and Sawyer 1990), a product that indicates on the package that it was bought on sale—by having a "cents-off" sticker on the label, for example—may have a better likelihood of increasing usage than one that does not.

Implications for Public Policy Decisions

The proliferation in the number of large and extra-large packages has been a response to consumer demand. Consider the soft drink industry, in which per capita consumption has risen from 37 gallons in 1972 to 48 gallons in 1992. This increase in demand allowed for the successful launch of one-liter single-serving bottles of Pepsi and three-liter multiserving bottles of Coca-Cola (Hine 1995, p. 163). Such economy is not without cost. Large packages increasingly require that consumers make a trade-off between the economy of large packages versus the serving convenience and handling ease of small ones.¹⁰

Any savings in buying large packages is lost, however, if part of the product is wasted. Indeed, public policy offi-

¹⁰To the extent a consumer is unwilling to make such a trade-off between economy and convenience, the editor of the *Tighwad Gazette* noted, "Some people ... (put) bulk-purchased items into smaller containers. But my advice is simply to be aware of [what Wansink (1995) notes as] the human tendency to overuse bulk-purchased items, and modify your behavior accordingly" (Dacyszyn 1995, p. 2).

cials are concerned with the consumer waste that larger package sizes may encourage (Perkins 1995). Other research on usage has indicated that increases in a product's supply may cause consumers to waste money by "overdosing" (Folkes and Martin 1992). In addressing this concern, the results of Studies 3 and 4 show that though usage is related to package size, the relationship is curvilinear, and consumers seem to know when "enough is enough." Furthermore, Studies 2 and 5 demonstrate that consumers are generally aware of the volume they pour and are not pouring in a mindless manner. In combination, these findings suggest that consumers do not operantly respond to package size. Instead, they are aware of the unit cost differences between package sizes and are aware of what is "too much." In effect, when faced with a larger package size, a consumer might very well say, "This is cheaper, so I'll use more ... up to a point."

Research Implications

I demonstrate that larger package sizes can influence the usage volume of usage variant products, partially because larger packages are perceived to be less expensive to use. This relationship can be either enhanced or inhibited by product-, situation-, or package-related factors. Understanding how these factors influence behavior helps identify the products that respond most favorably to managerial actions and the circumstances under which such actions are most effective.

Product-Related Research Opportunities

Product type. I distinguish usage variant from usage invariant products. Developing a detailed study of the characteristics of usage variance is the province of further research. Unlike Clorox bleach, usage variant products are likely to be ones that have minimal consequences to overuse and are likely to include foods that can be easily substituted with other categories (Wansink 1994b). An empirical study that systematically identifies the characteristics and usage sensitivity of different product types would help managers identify the product categories that are most affected by changes in package size.

Aside from looking at the types of products that might be most influenced by fluctuations in package size, it is also worth examining other contexts in which similar principles might operate. For example, if researchers broaden their definition of package size to include container size, they also may expect that a family dinner served in large dishware stimulates greater consumption than one served in small dishware that is periodically refilled. Such also may be true with the all-you-can-eat buffets.

Product familiarity. In the studies reported here, people poured more from larger packages because they believed them to be less expensive. Their perceptions of cost were reasonably accurate (as is shown in pretests and in Study 5), because they poured familiar brands from regularly used product categories. The results from Folkes, Martin, and Gupta's (1993) seminal study initially appear inconsistent with my results. Their study showed that package size had

no impact on the volume that college students poured from unbranded bottles of toilet cleaner. I suspect that part of the inconsistency between their results and mine is due to their use of an unbranded product from a product category that is unfamiliar to students: This is the province of further research. If estimates of unit cost mediate usage volume, I would not expect the package size of an unbranded, unfamiliar product to have any impact on usage volume. In essence, the real inconsistency would be if their results *had* shown a package size effect under these conditions.

Situation-Related Research Opportunities

Usage situation. Although a broad distinction was made between usage variant and usage invariant products, it is important to recognize that usage variance can be moderated by the usage situation. Different usage situations have different consumption goals associated with them (Huffman and Houston 1993; Ratneshwar and Shocker 1991). With respect to food consumption, environmental factors such as perceptions of time (Schachter and Gross 1968) and ambient noise levels (Ferber and Cabanac 1987) have proven to be powerful moderators of eating volume. When such moderators are present, any effect of package size may be overwhelmed. Similarly, the presence of other people has been shown to increase a person's usage volume of foods (Berry, Beatty, and Klesges 1985), but it is unclear whether usage-related differences in package size magnify or diminish this difference.

Constrained usage contexts. There are built-in constraints that limit usage in some contexts—drinking glasses and cereal bowls are a limited size. Regardless of whether a box of Wheaties is large or small, when the cereal bowl is full, no more cereal is poured. Although most marketers take constrained usage contexts as a given, others have pushed these constraints. A breakfast cereal company once gave away promotional cereal bowls that held 28% more volume than the typical breakfast bowl. Similarly, a soft drink bottler in Montana overcame drinking glass constraints by distributing half-gallon plastic glasses ("The Bigfoot"), complete with words of consumption encouragement written on them.

Another constrained usage context is one in which there is little tolerance for measurement error. When a consumer package good is a mix (e.g., Bisquick), or when it serves as a key ingredient (e.g., Gold Medal Flour) in a recipe, deviating from instructions can cause disappointing results. My research indicates that package size is one factor that can cause nonoptimal deviations in usage volume. Because any such deviations can ultimately hurt the equity of a brand, it is interesting to note that the test kitchens for some consumer packaged goods companies attempt to design robust recipes that can accommodate a 15% fluctuation in the usage volume of key ingredients.

Some constraints (e.g., cereal bowl size) are physical, whereas many others result from self-imposed usage habits (e.g., "I always eat only one bowl of cereal" or "I usually eat until I finish reading the newspaper"). Although a small cereal bowl represents a usage constraint when pouring one bowl, usage habits may be the constraint

that prevent pouring a second bowl. It is not clear what types of usage habits or heuristics drive consumption behavior in a household. It is clear, however, that such findings are of interest to managers, academics, home economists, and consumers.

Fill level. The studies reported here demonstrate that when a package is full, consumers pour more from larger ones than from smaller ones. Study 5 shows this persists for the first few uses of a product, and it may well continue until the fill level drops to a relatively low level. When little of the product is left, however, usage volume is difficult to predict, because the product can either be carefully rationed out or quickly "finished off." The latter is most likely to occur when there is too little product for two uses, but too much for one use. This explains why the studies by Folkes, Martin, and Gupta (1993) were inconclusive when only small amounts of a product remained in supply.

An unexamined twist to any new product usage study is to determine how depletion behavior is modified when the product is one that is shared within a household. In many refrigerators, the nearly empty containers of milk, orange juice, ice cream, and salad dressing sit as a testament to people's unwillingness to be the one who finished a favored product (i.e., a social good). It is unclear whether this apparent hesitancy to deplete such a product is related to the transaction costs of depletion (i.e., disposal or restocking), or if it instead reflects an attempt to avoid accusations of selfishness or gluttony (socially tantamount to "taking the last piece of pizza.") The answer has implications for social psychologists, as well as for managers who would like to increase the replacement rate of these products.

Packaging-Related Research Opportunities

Sizes of package openings. The pour spout or diameter of a package's opening did not influence how much was poured in the case of the foods and cleaners used in these studies. Nevertheless, folk wisdom and anecdotes have suggested that increasing the size of a package's opening can either increase or decrease the usage volume of a product. For example, it has been suggested (though unsubstantiated) that a person uses more toothpaste when he or she squeezes from a tube that has a larger opening, and there are numerous accounts that "big mouth" beers are drunk more rapidly than those with conventional openings. Although no systematic statement can be made about the size of a package opening and usage volume, it would be valuable to know whether there are product categories or circumstances under which changes in the size of a package opening cause either an increase or decrease in usage volume.

Multiple-unit packaging. My general focus has been on full packages that contain multiple servings. There are, however, other supply scenarios that can be investigated. One question that has been raised in the context of multipacks is whether a two-liter bottle is consumed faster than two one-liter bottles or a six-pack of cans. Although all contain a similar volume of the product, it may be that there are significant discontinuities in usage that occur when a person must pause and consider whether to open an additional

package. If contribution margins across the products are similar and if repurchase occurs after depletion, the answer to this question has immediate bottom line implications.

Conclusion

I investigate a dependent variable—usage—that has been overlooked in packaged goods research for too many years. When consumers are loyal to a brand, usage naturally leads to repurchase. The basic question then is not only choice-related but also usage-related: What influences usage once a brand is in the house? Although previous research has demonstrated how usage-related advertising can accelerate *usage frequency* (Wansink 1994a; Wansink and Ray 1996), this research demonstrates how package size can accelerate *usage volume*.

The marketing field now needs a fundamental understanding about usage behavior to help provide the necessary

foundation for the next generation of research in select areas. Such areas range from research involving brand loyalty and heavy users to that involving consumer promotions and stockpiling. Consider, for example, the basic finding that one reason consumers use more from large packages is because they perceive them as less expensive (per unit) than small packages. This leads to questioning the widely embraced assumption that consumers who stockpile price-promoted products consume them at a constant rate. These findings suggest that consumers may instead accelerate their consumption of such stockpiled products (see Wansink and Deshpande 1994).

Usage behavior is more ubiquitous than purchase behavior. Marketing-related variables once thought to only influence decisions to *choose*, now are discovered to influence decisions to *use*. Packaging represents one such variable. In effect, packaging influences usage behavior long after it has influenced purchase.

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A Reexamination of the Determinants of Consumer Satisfaction

Although the "disconfirmation of expectations" model continues to dominate research and managerial practice, several limitations indicate that it is not a complete picture of satisfaction formation. The authors propose a new model of the satisfaction formation process that builds on the disconfirmation paradigm by specifying a more comprehensive model that includes two standards in a single model and specifically incorporates the impact of marketing communication. An empirical test of the model provides support for the hypothesized relationships and a better understanding of the mechanisms that produce satisfaction.

Few things are as fundamental to the marketing concept as the notion of "satisfying the needs and *desires* of the consumer" (Keith 1960, p. 38, emphasis added). Yet, paradoxically, the dominant model of consumer satisfaction fails to adequately take this notion into account. Instead, satisfaction research has focused primarily on the disconfirmation of *expectations*, rather than of *desires*, as the key determinant of satisfaction. According to the "disconfirmation of expectations" model, feelings of satisfaction arise when consumers compare their perceptions of a product's performance to their expectations (e.g., Oliver 1980). If perceived performance exceeds a consumer's expectations (a positive disconfirmation), then the consumer is satisfied. But if perceived performance falls short of his or her expectations (a negative disconfirmation), then the consumer is dissatisfied. There is a considerable amount of empirical evidence that confirms the hypothesized impact of the disconfirmation of expectations on satisfaction (for a review, see Yi 1990). We believe, however, that the extent to which a product or service fulfills a person's desires also plays an important role in shaping his or her feelings of satisfaction—much as the marketing concept would predict and as has been acknowledged by some in the satisfaction literature (e.g., Olshavsky and Spreng 1989; Westbrook and Reilly 1983). Indeed, the failure to consider the extent to which a product or service fulfills a person's desires has led to logical inconsistencies, such as predicting that a consumer who expects and receives poor performance will be satisfied (LaTour and Peat 1979) and research that sometimes shows no relationship between disconfirmation of expectations and satisfaction (e.g., Churchill and Surprenant 1982).

Thus, our purpose is to describe and empirically test a more comprehensive model of the determinants of con-

sumer satisfaction. The model proposes that feelings of satisfaction arise when consumers compare their perceptions of the performance of a product or service to both their desires and expectations. This comparison process produces not only feelings of satisfaction with the product or service, but also feelings of satisfaction with the information (often supplied by marketers in such forms as advertising, package information, and salesperson communications) on which their expectations are based. Both types of satisfaction are seen as having an important impact on overall feelings of satisfaction with the product or service experience.

We believe the proposed model makes several contributions to the satisfaction literature. First, it attempts to disentangle the separate, but important, roles of desires and expectations. This is a particularly important objective in view of the well-documented impact of desires on prepurchase choice processes. For example, benefit segmentation (Haley 1968) is founded on the notion that products are selected on the basis of the benefits desired by consumers; and existing models of judgment and choice (Payne, Bettman, and Johnson 1993) specify how consumers use various *choice criteria*—which are essentially desires—to select and evaluate products. Thus, though there is ample evidence of the impact of desires on prepurchase evaluation processes, it is peculiar that there has not been much research on the impact of desires on postpurchase evaluations or on its importance relative to expectations. This study begins to fill this gap in the literature.

Second, the model introduces the notion of *information satisfaction* to the field, conceptually distinguishes it from other forms of satisfaction, and examines its relative impact on overall feelings of satisfaction with a product or service experience. This is an important addition to current models of satisfaction, because marketers often provide consumers with a wealth of information about their products or services through advertising, personal selling, package information, and so on, which influences consumer expectations and about which consumers sometimes have strong feelings (especially when they feel they have been misled). For example, if an advertisement or salesperson falsely leads

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consumers to expect performance above the desired level of performance, and the product subsequently performs at the desired level but fails to meet their inflated expectations, it is likely that consumers will be less satisfied with their overall experiences with the product than if they had not been misled. More important, we believe that in this situation their overall feelings of satisfaction or dissatisfaction depend as much on their dissatisfaction with the information they received about the product as on their satisfaction with the product itself. Thus, the proposed model predicts that consumers evaluate the information provided, as well as the product outcome, in determining their overall level of satisfaction.

Third, we hope to advance satisfaction research by illustrating a method of operationalizing the discrepancy between a standard (e.g., expectations, desires) and perceived performance, which has several advantages over other combinatorial methods used in previous research. The method is based on Tversky's (1969) additive difference model, and its advantages include the following: (1) it is a more general form of such models as the ideal-point model or the value-percept disparity model (Westbrook and Reilly 1983); (2) it enables deviations from a standard to be evaluated either positively or negatively rather than assumes that any deviation is bad; (3) it allows consumer evaluations of the discrepancies to vary as a function of the magnitude of the difference between perceived performance and the standard; and (4) as operationalized here, it avoids some of the problems associated with the use of difference scores (Teas 1993).

We discuss the distinction between desires and expectations, provide an overview of the model, discuss how it was empirically tested, present the results, and explore the implications of the results for further research and managerial practice.

Expectations and Desires

Expectations

Virtually every model of the satisfaction formation process (including ours) posits that feelings of satisfaction arise when consumers compare their perceptions of a product's performance to their expectations. Therefore, it is surprising that there is not more agreement in the literature about the conceptual definition of the expectations construct. Some view expectations as primarily perceptions of the likelihood (or probability of occurrence) of some event (e.g., Bearden and Teel 1983; Westbrook 1987; Westbrook and Reilly 1983). Others argue that expectations consist of an estimate of the likelihood of an event plus an evaluation of the goodness or badness of the event (e.g., Churchill and Surprenant 1982; Oliver 1980; Tse and Wilton 1988). Oliver (1981, p. 33, emphasis added) provides a good example of the latter perspective:

Expectations have two components: a probability of occurrence (e.g., the likelihood that a clerk will be available to wait on customers) and an evaluation of the occurrence (e.g., the degree to which the clerk's attention is desirable or undesirable, good or bad, etc.). Both are necessary because it is not at all clear that some attributes (clerks, in our example) are *desired* by all shoppers.

As Oliver's discussion makes clear, this broader, more evaluative definition of the expectations construct confounds a person's judgment of some event with his or her expectation of the likelihood of its occurrence. Thus, people with identical estimates of the likelihood that a clerk will be available to wait on them may rate differently this type of *evaluative expectations* measure, because some might want a clerk to wait on them or think a clerk should wait on customers as they enter a store, whereas others might *not* want a clerk to wait on them or think clerks should not approach customers until they are asked for help. To attribute the resulting differences in these scores to differences in what people expect is clearly misleading. If the likelihood estimates are the same, then the differences must be due to what they desire and/or what they think should happen (relative to retail industry norms).

Therefore, we believe that the only way to gain a clear understanding of the impact of expectations on satisfaction is to avoid confounding *predictive expectations* (what a person believes is likely to happen in the future) with judgments that implicitly require the use of several possible standards of comparison (e.g., desires, industry norms, equity, best brand). To do otherwise may result in biased estimates of the impact of expectations on satisfaction and may even help explain why the estimates of the impact of expectations on satisfaction found in the literature vary so widely. Therefore, we define *expectations* as beliefs about a product's attributes or performance at some time in the future (Olson and Dover 1979).

Desires

Although standards similar to desires have been acknowledged in prior satisfaction research (e.g., Barbeau 1985; Myers 1991; Olshavsky and Spreng 1989; Sirgy 1984; Swan and Trawick 1980; Swan, Trawick, and Carroll 1981; Westbrook and Reilly 1983; Woodruff, Cadotte, and Jenkins 1983) and there is some recent empirical evidence that how a product performs relative to a consumer's internal standards or desires may be related to satisfaction (Gardial et al. 1994; Spreng and Olshavsky 1993), a consensus about the conceptual definition of the desires construct has yet to emerge. In part, this is because desires can be conceptualized at various levels of abstraction: They can be defined abstractly in terms of the most basic and fundamental needs, life goals, or desired end-states or more concretely in terms of the means that a person believes will lead to the attainment of the desired end-states. Thus, higher- and lower-level desires can be thought of as connected in a means-end chain (Gutman 1982). That is, higher-level values and desires lead to desires for products that provide certain benefits, and these benefits in turn specify the attributes and the levels of attributes desired in the product. For example, a consumer might have as an abstract value the desire to protect his or her family from harm; and this may manifest itself in a desire to buy products that provide the benefit of safety. The desired benefit may, in turn, be specified in terms of certain attributes, such as antilock brakes in a car. Thus, desires can be abstract end-states (the desire to be protected), intermediate benefits (products that are safe), or the concrete means of achieving those benefits (antilock brakes in a car).

Although there is some precedent in the satisfaction literature for defining desires at an abstract level (e.g., Westbrook and Reilly 1983), we believe it is more useful to define *desires* concretely as the levels of attributes and benefits that a consumer believes will lead to or are associated with higher-level values. Only at this concrete level are desires directly comparable to perceived performance. Implicitly or explicitly, people judge the extent to which a product contributes to the attainment of their desired end-states by examining the extent to which the product produces consequences or outcomes or provides attributes or benefits that they believe will be instrumental in leading to the attainment of their higher-level desires.

Thus, we believe that it is possible to distinguish clearly between desires and predictive expectations at the conceptual level. Expectations are beliefs about the likelihood that a product is associated with certain attributes, benefits, or outcomes, whereas desires are evaluations of the extent to which those attributes, benefits, or outcomes lead to the attainment of a person's values. Expectations are future-oriented and relatively malleable, whereas desires are present-oriented and relatively stable. We examine the extent to which these constructs are empirically distinguishable by evaluating the discriminant validity of the measures of desires and expectations and determining whether these two constructs have differential effects on satisfaction.

Overview of the Model

In Figure 1, we present the proposed conceptual model. In brief, we posit that *overall satisfaction*, which is defined here as an affective state that is the emotional reaction to a

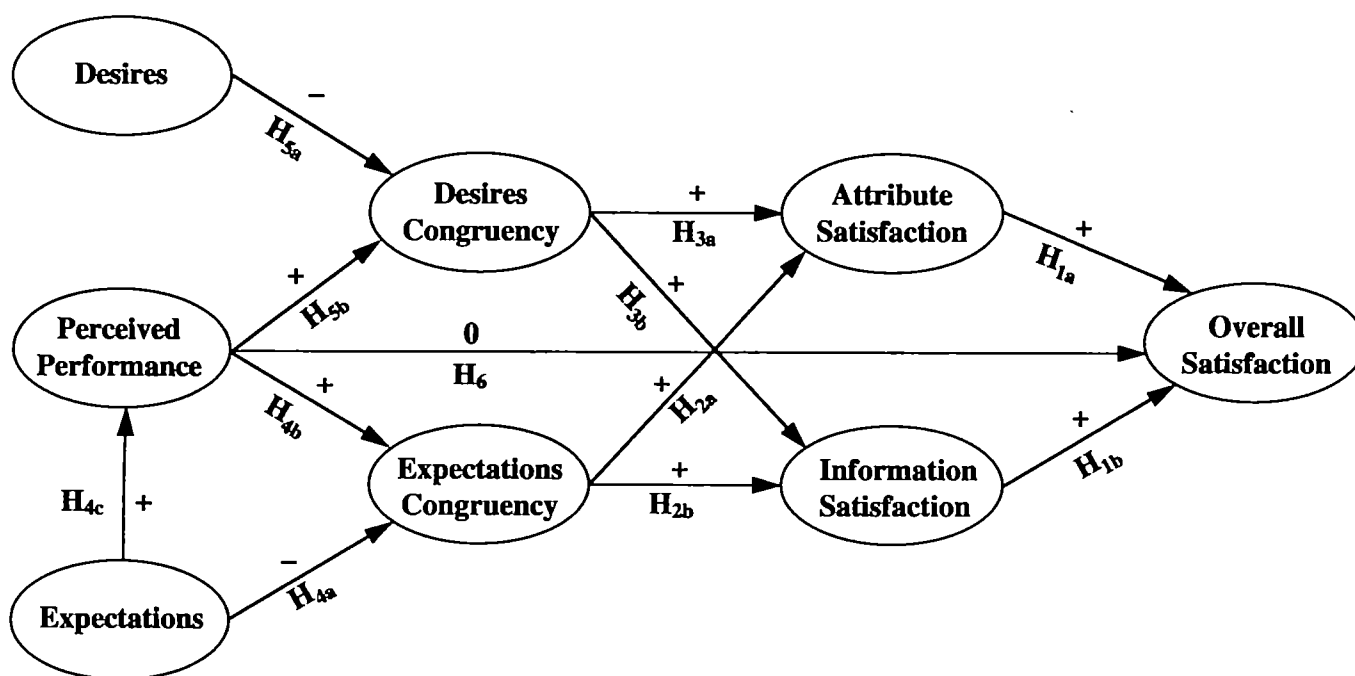
product or service experience (Cadotte, Woodruff, and Jenkins 1987; Oliver 1980), is influenced by a consumer's satisfaction with the product itself (attribute satisfaction) and with the information used in choosing the product (information satisfaction). Attribute satisfaction and information satisfaction are themselves produced by a consumer's assessment of the degree to which a product's performance is perceived to have met or exceeded his or her desires (desires congruency) and expectations (expectations congruency).¹ We discuss each of the major linkages in the proposed model.

The Effects of Attribute Satisfaction and Information Satisfaction

We propose that overall satisfaction with the individual transaction has two direct antecedents: satisfaction with the product outcome itself (attribute satisfaction) and satisfaction with the information. Oliver (1993, p. 421) defines *attribute satisfaction* as "the consumer's subjective satisfaction judgment resulting from observations of attribute performance." Consumer satisfaction often has been operationalized at both the global and attribute level. We believe it is important to maintain the distinction between overall satisfaction and satisfaction with the individual attributes, because attribute-specific satisfaction is not the only antecedent of overall satisfaction. Overall satisfaction is based on the overall experience, not just the individual attributes. Thus, our position is consistent with the recent work of Oliver (1993), who argues

¹It is probable that there are other antecedents of satisfaction, such as affect (Westbrook 1987) or equity (Oliver and DeSarbo 1988), but for simplicity these are not included here.

FIGURE 1
Conceptual Model of the Satisfaction Formation Process



that overall satisfaction and attribute satisfaction are distinct, though related, constructs.

Information satisfaction is defined as a subjective satisfaction judgment of the information used in choosing a product (for related comments regarding satisfaction with prepurchase information, see Westbrook, Newman, and Taylor 1978). Recently, several authors have suggested that expectations developed through marketer-controlled sources (i.e., advertising or personal selling) should be described as marketer supplied, persuasion-based expectations or promises (Gardial et al. 1994; Spreng and Dixon 1992; Woodruff et al. 1991). Although expectations can be formed from several sources, of particular interest are those based on information provided by firms, because these expectations are in some measure controllable by the firm. Gardial and colleagues (1994, p. 559) describe these as "marketer supplied" standards, which they define as "[s]tandards that are suggested by corporate/marketing communications (e.g., promotions, salespeople, or manufacturer)." They found that when their respondents were asked about product experiences that were satisfying or dissatisfying, 18% of the thoughts (the third highest percentage) were related to marketer supplied information (e.g., "The shoes did not hold up like they were advertised."). Thus, there is some evidence from consumer protocols that marketer supplied information is compared to product performance.

When these expectations are disconfirmed, a person can be satisfied or dissatisfied with the information given, as well as with the product itself. When using information from a salesperson or an advertisement in choosing a product, the consumer may have several feelings about the information that in turn affect overall satisfaction. For example, if sellers promise more than they can deliver (see Gardial et al. 1994) and if these persuasion-based expectations are disconfirmed, then the consumer will be dissatisfied with the information used in choosing the product. Thus, information satisfaction is proposed as a key construct mediating the effect of expectations congruency on overall satisfaction. We therefore extend Gardial and colleagues' (1994) work by proposing that consumers make a judgment regarding the satisfaction with marketer supplied information; which in turn influences satisfaction.

Although there are likely to be other dimensions of satisfaction, we focus on information satisfaction because it is the result of the consumer's evaluation of the firm's marketing communications efforts (i.e., advertising or personal selling). Because a great deal of marketing effort is focused on communications with the customer, it is important to examine this dimension. Furthermore, based on satisfaction research, managers are being told to "manage expectations," which it seems will be done almost exclusively through marketer-controlled sources of information (e.g., Davidow and Uttal 1989; Peters 1987). From a managerial standpoint, it is important for managers to understand how the information they provide to the consumer can influence the consumer's overall satisfaction with the product; therefore, we propose the following hypotheses:

H_{1a}: Attribute satisfaction is positively related to overall satisfaction.

H_{1b}: Information satisfaction is positively related to overall satisfaction.

The Effects of Expectations Congruency and Desires Congruency

Expectations congruency. A great deal of previous research has established the effect of expectations congruency (disconfirmation) on satisfaction (for a review, see Yi 1990). *Expectations congruency* is defined as the consumer's subjective assessment of the comparison between his or her expectations and the performance received. In Figure 1, we propose that expectations congruency has this traditional direct effect on attribute satisfaction, because consumers assess on an attribute level whether the product performed as anticipated. We also propose, however, that expectations congruency influences information satisfaction. If a consumer is told that a product will perform in a certain way (e.g., a car will get 35 miles per gallon) and this attribute is negatively disconfirmed (i.e., it gets 25 miles per gallon), then the consumer is likely to be dissatisfied with the information that was given. Thus, the proposed model shows that expectations congruency at the attribute level influences attribute satisfaction and information satisfaction, both of which are measured at the attribute level. Thus,

H_{2a}: Expectations congruency is positively related to attribute satisfaction.

H_{2b}: Expectations congruency is positively related to information satisfaction.

Desires congruency. We define *desires congruency* as the consumer's subjective assessment of the comparison between his or her desires and the performance received. We propose that desires congruency positively influences overall satisfaction indirectly through attribute satisfaction and information satisfaction. The closer the match between what a consumer desires and what the brand's perceived performance is, the more satisfied he or she will be with the brand. For example, assume that a consumer wants an automobile that is fuel efficient and fun to drive; if, after use, the brand is perceived to provide both benefits, then he or she will be satisfied with the brand's performance on these dimensions. If he or she also wants the car to be inexpensive and it is not, then this will diminish satisfaction with the car's price. Thus, we hypothesize that desires congruency influences a person's attribute-specific feelings of satisfaction (e.g., his or her emotional responses—on the attribute level—to the experience of owning or using a car). The closer a brand's performance matches the consumer's desires, the more satisfied he or she is with its features.

In addition, prepurchase rules used in choosing a product generally assume that consumers purchase products that they expect to fulfill their desires. Therefore, there should be a positive relationship between desires congruency and information satisfaction. In other words, if performance is close to desires, then it is likely that the consumer will be satisfied with the information used in making the choice. If

the performance is worse than desired, then it is likely that the consumer will be dissatisfied with the information used in making the choice. Thus,

H_{3a}: Desires congruency is positively related to attribute satisfaction.

H_{3b}: Desires congruency is positively related to information satisfaction.

Previous research using desires congruency and expectations congruency. Only a few empirical studies have examined the relative effect of expectations and desires on overall satisfaction. In a previous study, Locke (1967, p. 133), finding evidence that desires, not expectations, determined affect, concluded that "it was success in relation to aspiration, rather than success in relation to expectation that determined affect." Westbrook and Reilly (1983) found that expectations congruency had a stronger effect on satisfaction than did desires congruency but, they conceded, measurement problems probably influenced their results. Barbeau (1985) examined student satisfaction with a marketing course and found that desires congruency had a significant effect on overall satisfaction, whereas expectations congruency did not. Spreng and Olshavsky (1993) contrasted desires congruency and expectations congruency; they also found that the former had a significant effect on overall satisfaction, but the latter did not.² Note that all four of these studies used students as subjects. Finally, Myers (1991) tested expected versus wanted disconfirmation with car buyers and found that though both had a significant effect on satisfaction, the impact of wanted disconfirmation was stronger.

Operationalization of desires congruency and expectations congruency. Disconfirmation (expectations congruency) has been operationalized in prior research in several ways—as the algebraic difference between expectations measures and perceived performance measures for each attribute or as an independently measured, distinct cognitive state that is subjectively perceived by the consumer. The most common way of measuring subjective disconfirmation is the method advocated by Oliver (1980), in which the measures are anchored by "worse than expected/better than expected." When subjective disconfirmation is measured this way, it is likely that consumers will report both the discrepancy between expectations and performance and an evaluation of the product itself. Because we propose that the evaluation of the product (attribute satisfaction) is also the result of desires congruency, the traditional measures of disconfirmation are likely to confound expectations congruency and desires congruency. Thus, we here propose the use of the additive difference model (Tversky 1969) as a way of operationalizing both congruency constructs (for more details, see Appendix A). This model has the advantage of being more general than other operationalizations used in

prior research; models such as the ideal-point model and the value-percept disparity model (Westbrook and Reilly 1983) are simply special cases of the additive difference model. Another advantage is that it decomposes the assessment of congruency into two components: the difference between the standard and the performance and an evaluation of this difference. Thus, we believe that this operationalization is more consistent with the conceptual definitions of both congruency constructs.

Antecedents of Desires Congruency and Expectations Congruency

The effects of expectations. Despite its central place in the disconfirmation of expectations model, the effect of expectations is not at all clear. One issue deals with the relationship between expectations and disconfirmation: Some researchers claim that the two are unrelated (e.g., Oliver 1980), whereas others suggest that there is a negative relationship—high expectations are more likely to be negatively disconfirmed and low expectations are more likely to be positively disconfirmed (Churchill and Surprenant 1982; Yi 1990). Thus, because disconfirmation is positively related to satisfaction, the overall indirect effect of expectations on satisfaction should be negative. It is this relationship that has led some to argue that firms should lower consumer expectations to produce positive disconfirmation and thus higher satisfaction (e.g., Davidow and Uttal 1989; Peters 1987).

It is well known, however, that expectations can influence perceptions of an event, because perceptions are assimilated toward expectations (e.g., Olshavsky and Miller 1972; Olson and Dover 1979; for a review, see Yi 1990, pp. 83–84). This process can be explained by social judgment theory (Sherif and Hovland 1961), which suggests that beliefs can systematically distort a person's perceptions and that the effect is likely to be strongest when the outcome is ambiguous. For example, Hoch and Ha (1986) found that perceptions of product performance moved in the direction of expectations only when the product experience was ambiguous. Because perceived performance has a positive influence on satisfaction, the effect of expectations on satisfaction through perceived performance is positive. This positive effect has led Boulding and colleagues (1993) to recommend, in the related domain of service quality, that firms *raise* predictive expectations, rather than lower them as the disconfirmation model would prescribe. Thus, it appears that the two effects of expectations produce opposite effects; as Yi (1990, p. 78) points out, "While raising expectations about a product may enhance perceived product performance, it may also increase the magnitude of disconfirmation." Thus, a fundamental issue regarding the disconfirmation model deals with the total effects of expectations on satisfaction. The net influence could be positive (through a positive relationship with perceived performance, which then has a positive relationship with satisfaction) and/or negative (through a negative relationship with disconfirmation, which then has a positive relationship with satisfaction). Although some researchers have hypothesized a positive *direct* effect of expectations on overall satisfaction (Oliver 1980) and argue that expectations act as an adaptation level, this effect is more theoretically interpretable as an

²However, this lack of significance may be due to their procedure: They did not manipulate expectations, and the product used was an innovation. Thus, consumers had no real expectations from previous use, and the expectations manipulation was a single advertisement (i.e., one treatment of an expectations manipulation). This probably reduced the effect of expectations disconfirmation.

assimilation effect that influences satisfaction indirectly through perceived performance. Most studies in satisfaction have not disentangled these competing effects, though looking at the simple correlations in studies reveals that the net effect of expectations on satisfaction is usually positive (e.g., Bearden and Teel 1983; Cadotte, Woodruff, and Jenkins 1987; Churchill and Surprenant 1982; Tse and Wilton 1988). The body of research showing a net positive relationship between expectations and satisfaction is contrary to the basic formulation of the disconfirmation of expectations model, because higher expectations should lead to lower scores on a disconfirmation measure, which in turn should lead to lower satisfaction.

The previous discussion leads to the following hypotheses:

- H_{4a}: Expectations are negatively related to expectations congruency.
- H_{4b}: Perceived performance is positively related to expectations congruency.
- H_{4c}: Expectations have a positive effect on perceived performance.
- H_{4d}: The total effect of expectations on overall satisfaction is positive.

The effect of desires. We hypothesize that the relationship between desires and desires congruency is similar to the basic disconfirmation formulation, because the more stringent a person's desires, the less likely that the product will meet those desires. Conversely, the higher the product performance, the more likely that desires will be met. Therefore,

- H_{5a}: Desires are negatively related to desires congruency.
- H_{5b}: Perceived performance is positively related to desires congruency.

The effect of perceived performance on satisfaction. We define *perceived performance* as beliefs regarding the product attributes, levels of attributes, or outcomes (see related discussion in Cadotte, Woodruff, and Jenkins 1987, p. 313). Perceived performance generally has been included in the disconfirmation of expectations model as only the referent against which expectations are compared. Most prior research in satisfaction, however, has not included performance as a direct antecedent of satisfaction (e.g., Bearden and Teel 1983; Cadotte, Woodruff, and Jenkins 1987; Oliver 1980; Oliver and DeSarbo 1988; Swan and Trawick 1980; Westbrook 1987; Westbrook and Reilly 1983). When perceived performance has been included in the model, a strong direct relationship between perceived performance and satisfaction often has been found (Anderson, Fornell, and Lehmann 1994; Anderson and Sullivan 1993; Churchill and Surprenant 1982; Tse and Wilton 1988), and this effect is not completely mediated by the disconfirmation of expectations.

Not all satisfaction researchers agree that an examination of the direct effect of performance is likely to be a fruitful theoretical approach. Oliver (1989, p. 2) states, "It says little, however, about the specific thought processes triggered by the product features. In particular, it fails to identify the mechanism by which performance is converted into a psychological reaction by the consumer." To provide such a

mechanism, we propose that any direct effect of perceived performance on satisfaction is mediated by both expectations congruency and desires congruency. Previous research generally has not included desires congruency, and we believe that its inclusion accounts for much of the effect of performance on overall satisfaction.

- H₆: The effect of perceived performance on overall satisfaction is mediated by desires congruency, expectations congruency, attribute satisfaction, and information satisfaction.

Method

Subjects

Subjects were recruited from a local church, which received a monetary amount per person and one of the camcorders used in the study. Subjects signed up for individual appointments. A total of 219 subjects participated, but 12 were dropped because of either a failure to complete the task or their response to the hypothesis-guessing question. The subjects ranged in age from 18 to more than 65, with a median age category of 31 to 35 years, and 56% were female. One percent had less than a high school education, 22% had a high school or technical education, 27% had some college, and 49% had at least a bachelor's degree.

Product

The goal was to select a product (1) that exhibits some variation in desires and expectations, (2) that engenders in a one-hour session feelings of satisfaction or dissatisfaction, and (3) whose performance could be easily manipulated. A camcorder met these requirements. Pretest interviews indicated variation in what people desired in a camcorder (e.g., easy to use but not very versatile, more difficult to use but could take better pictures under a wider range of situations). The product's average involvement score for our subjects was 95 on Zaichkowsky's (1985) Personal Involvement Scale (Zaichkowsky found an average of 89 across several product categories), and virtually everyone indicated some familiarity with the product class. Because only 25% of subjects owned a camcorder and most expected performance to vary across models and brands, expectations could be manipulated. In addition, the product could be used realistically enough in a laboratory setting to ensure that people could form feelings of satisfaction or dissatisfaction. Finally, it was easy to manipulate the performance of the product without arousing suspicion.

Procedure

Each subject was welcomed, was asked a general screening question regarding desires about cameras, read a brief study description, and signed a consent form. Next, each subject was asked to read some information about camcorders (ostensibly from *Consumer Reports*), which contained the desires manipulation. Each then answered some specific questions about what he or she desired in a camcorder. Finally, each subject read a brief description containing the expectations manipulation of the camcorder he or she was about to

use and then was asked about how he or she expected the camcorder to perform.

Subjects were then taken to one of two rooms depending on their assigned performance manipulation. In each room there was a television set and a camcorder (exactly the same model in both rooms). Subjects used the camcorder, after which they viewed a three-minute demonstration tape illustrating this particular camcorder's ability to handle special photographic situations (e.g., backlight, low light). Following the use experience, in which performance was manipulated, subjects returned to the first room and completed the following measures (in order): perceived performance, desires congruency, expectations congruency, attribute satisfaction, information satisfaction, and overall satisfaction. Demographic questions and Zaichowsky's (1985) involvement scale followed. Finally, a hypothesis-guessing question was asked and a debriefing letter was given to all participants.

Manipulations

The experiment was a 2 (desires) $\times$ 2 (expectations) $\times$ 2 (performance) design.

Desires. The realistic manipulation of desires in a laboratory setting is difficult, because desires for attributes and benefits flow from a person's higher-level values. Rather than attempt to make subjects in different treatment conditions desire things they did not previously want, a manipulation was developed to systematically strengthen their existing desires. Subjects were asked, "If you were in the market for a new camera, would you be more likely to want an easy-to-use camera that takes moderate-quality pictures or a more difficult-to-use camera that takes high-quality pictures?" Responses to this screening question were used to assign subjects to the appropriate desires conditions. Subjects then read a mock *Consumer Reports* article that said choosing a camcorder required a trade-off between (1) cameras that are easy to use, but because they are not versatile, do not take great pictures in some situations and (2) cameras that are more difficult to use, but because they are versatile, produce excellent video under all conditions. This information was followed by detailed information explaining why most consumers prefer either the former or the latter type of camera. The subjects who initially said they desired an easy-to-use camera were given the version that advocated easy-to-use cameras; subjects who initially said they desired a more versatile camera were given the version advocating that type of camera. Thus, the goal of the desires manipulation was not to make subjects desire things they did not previously want but rather to systematically strengthen their already existing desires. Following this procedure, subjects were randomly assigned to the other conditions. Desires, therefore, can be thought of as a blocking factor that is independent of the expectations and performance manipulations.

Expectations. Subjects were randomly assigned to one of two expectations conditions, in which they were given information about the exact brand and model of camcorder they evaluated, purportedly from a camcorder salesperson.

In the low-expectations condition (not versatile-average video), subjects were told that the camera is "easy to use but, like most automatic cameras, is not able to provide great pictures in all situations." Subjects in the high-expectations condition (versatile-great video) were told that the camera is "more difficult to use but, unlike easy-to-use cameras, will provide great pictures in all situations."

Performance. Two performance conditions were created by manipulating two attributes: the versatility of the camcorder and the video outcome. Subjects were randomly assigned to one of these conditions. In both conditions, subjects were given a camcorder with a set of operating instructions and asked to try using it. Following this, they viewed a three-minute demonstration tape that they were told "was taken with their camera to test its ability to handle special photographic situations" (such as a backlit subject, a high-speed subject, and a zoom situation in a dimly lit room that required a manual focus setting).

Subjects in the low-performance condition (not versatile-average video) were given an automatic camcorder with the automatic features turned on and the manual override controls covered. This made the camcorder easy to use but not versatile. While using the camera, the subject was able to view the results on the television set, which was adjusted so that the picture quality was only adequate (i.e., somewhat grainy picture, colors not very bright). Finally, the subject viewed a demonstration tape showing that the camcorder had only limited versatility; it did not perform well in difficult photographic situations. Thus, subjects in this condition used a camcorder that was not versatile and produced only average-quality video.

Subjects in the high-performance condition (versatile-great video) received a camcorder with the manual controls turned on and adjusted so they needed to be manually reset. Instructions were provided for setting each of the manual controls, and the researcher was present to answer questions. The television monitor was adjusted to provide sharp pictures and vivid colors. Subjects then viewed the demonstration tape, which showed that the camcorder performed well in several difficult photographic situations. Thus, subjects in this group used a camcorder that was versatile and produced high-quality video.

Measures

The key product dimensions measured for each construct were versatility and picture outcome. These attributes were identified as important through discussions with several camcorder owners and the manager of a photography store, as well as through *Consumer Reports* information. Versatility was measured with a single-item scale for each construct (versatility), and picture outcome was measured with two scales for each construct (picture quality and picture sharpness).

Desires, expectations, and perceived performance measures. The desires measures stated, "Below are several questions regarding what you personally would desire from a

camcorder," followed by the three measures with 11-point scales.³ Expectations regarding each attribute were measured as, "What performance do you anticipate or expect from this product?" Eleven-point scales were anchored in the same way as were the desires questions. Finally, the perceived performance measures asked, "How did you think the camera actually performed?" and used 11-point scales anchored in the same way as were the desires and expectations questions. These measures for desires, expectations, and perceived performance were used as manipulation checks, and to operationalize the three constructs.

Desires congruency and expectations congruency measures. To allow for comparability, desires congruency and expectations congruency were measured in a similar way. Desires congruency was measured for each attribute by asking, "In comparison to the level of each aspect that you desired, how big was the difference between what you wanted and what the camcorder actually provided?" Seven-point scales anchored by "exactly as I desired" and "extremely different from what I desired," with a midpoint of "somewhat different from what I desired," were used. Thus, this question asked the subject to judge the discrepancy between desires and perceived performance. Immediately after each attribute question, the subject was asked, "How good or bad was this difference?" Responses were recorded on an 11-point scale (-5 to +5), with "very bad" and "very good" as endpoints and "neither bad nor good" as the midpoint. Congruency at the attribute level was operationalized by multiplying the "how different" measure by the evaluation of the difference. Therefore, these measures represent a belief regarding the degree to which the attribute matched the subject's desires and an evaluation of this belief. Expectations congruency was operationalized in the same way, with measures for the difference between what was expected and what was received and measures of an evaluation of this difference. In Appendix A, we provide a more detailed justification of this operationalization of the congruency constructs.

Information satisfaction measures. The information satisfaction measures asked subjects about their satisfaction with the information for each aspect of the product (i.e., versatility, picture quality, and picture sharpness): "Thinking just about the information from the salesperson, how satisfied are you with this information?" Seven-point scales were used, anchored by "very dissatisfied" and "very satisfied,"

³Desires, expectations, and perceived performance were all measured on two product dimensions: versatility and the picture outcome. For each construct the versatility dimension was operationalized with single-item measures and was anchored "moderately versatile, able to take video in typical situations" and "extremely versatile, able to take video in all situations," with "good versatility, able to take video in most situations" as the midpoint. The picture outcome constructs were measured with two items: picture quality and picture sharpness. The picture quality measures were anchored "average quality" and "extremely high quality" ("very good quality" was the midpoint). The picture sharpness measures were anchored "average sharpness" and "extremely sharp" ("very good sharpness" was the midpoint).

with "indifferent: neither satisfied nor dissatisfied" as the midpoint.

Attribute satisfaction measures. Attribute satisfaction was assessed by asking, "Thinking just about the product itself, how satisfied are you with this product?" To measure each attribute (i.e., versatility, picture quality, and picture sharpness) a seven-point scale was used, anchored by "very dissatisfied" and "very satisfied," with "indifferent: neither satisfied nor dissatisfied" as the midpoint.

Overall satisfaction measures. Overall satisfaction is a summary evaluation of the entire product use experience for this single experience (i.e., not the cumulative satisfaction construct discussed by Fornell 1992). Oliver (1989) argues that satisfaction involves two dimensions: valence (positive and negative) and intensity. Therefore, the measures for overall satisfaction were designed to measure both high- and low-intensity reactions. Overall satisfaction was measured with four seven-point scales, anchored as "very satisfied/very dissatisfied," "very pleased/very displeased," "contented/frustrated," and "delighted/terrible."

Results

First, we present the results of desires, expectations, and performance manipulation and confounding checks. Second, we present confirmatory factor analysis (CFA) results exploring the measurement model. Third, we report the results of the structural equation modeling used to test the relationships among the constructs. LISREL 8 (Jöreskog and Sörbom 1993) was used for the CFA and structural equations modeling (using the covariance matrix as input).

Manipulation and Confounding Checks

Separate ANOVAs were run on each desires measure to determine whether subjects in the two desires groups differed. In each case there was a significant difference ($p < .0001$ for all attributes). Those in the easy-to-use group desired less versatility (7.05 versus 9.03), lower picture quality (6.48 versus 9.29), and less picture sharpness (6.56 versus 9.34) than those in the versatile-great video group. Similarly, the expectation manipulation succeeded in creating the appropriate differences ($p < .0001$ for all attributes), with the not versatile-average video subjects expecting less versatility (4.51 versus 8.79), lower picture quality (3.88 versus 8.78), and less picture sharpness (3.93 versus 8.73) than the versatile-great video group. Finally, the performance manipulation also succeeded ($p < .0001$ for all attributes), with the not versatile-average video subjects perceiving less versatility (4.48 versus 8.48), lower picture quality (3.75 versus 7.83), and less picture sharpness (3.75 versus 7.85) than the versatile-great video group.

As confounding checks, ANOVAs were conducted for each attribute. The desires manipulation had no significant effect on any of the perceived performance or expectations measures. The expectations manipulation had the predicted effect on the perceptual performance ratings. Compared to the low-expectations group (not versatile-average video), subjects in the high-expectations group (versatile-great video) reported that the camcorder they used was more ver-

satile (6.98 versus 5.99, $p = .02$) and had higher picture quality (6.45 versus 5.14, $p = .002$) and sharpness (6.32 versus 5.29, $p = .02$). The expectation manipulation occurred after the desires measures were taken and therefore could not have influenced the desires scores. Likewise, the performance manipulation occurred after both desires and expectations had been measured and could not have affected either set of measures.

Measurement Model

To assess the measurement model, we conducted a CFA. The picture quality and picture sharpness measures were used as multiple indicators for each picture outcome construct, and the versatility measures were used as single-item measures for each versatility construct. For example, there were two desires constructs: a picture outcome desires construct (two measures) and a versatility desires construct (single measure). Similarly, there were two constructs for perceived performance, expectations, desires congruency, expectations congruency, attribute satisfaction, and information satisfaction. Overall satisfaction was operationalized as a latent construct with four measures. The fit of the CFA model is acceptable, with a χ^2 of 224.47 (df 177, $p = .01$), a goodness-of-fit index of .92, an adjusted goodness-of-fit index of .86, and a comparative fit index (Bentler 1990) of .99. There were no standardized residuals greater than 3.00. The squared multiple correlations ranged from .75 to .98. The average variance extracted (AVE) could be calculated for the picture outcome constructs (because they have multiple measures), and all exceeded the minimum of .50 suggested by Fornell and Larcker (1981). The factor intercorrelations from this model and the AVE for the constructs with multiple indicators are presented in Table 1.

As a test of discriminant validity, we used the procedure recommended by Anderson and Gerbing (1988), in which the correlation between each pair of constructs was constrained, one at a time, to be equal to 1. In each case the test confirmed that all the constructs were empirically distinct. As a stronger test of discriminant validity, Fornell and Larcker (1981) suggest that the average variance extracted for each construct should be higher than the squared correlation between that construct and any other construct. This test held, because the largest squared correlation between any two constructs is .74, whereas the AVE ranges from .84 to .97.

Finally, the correlations between desires and expectations for both attributes were low (.15 for the picture outcome attribute and .16 for the versatility attribute). Thus, these two constructs appear to be empirically distinct. Also, the correlation between attribute satisfaction and information satisfaction is moderate (.56 for the picture outcome attribute and .40 for the versatility attribute); because the average variance extracted (picture outcome attribute) for these two constructs are .93 and .84, respectively, it is clear that they are distinct.

Having established the measurement properties at the attribute level, we combined the attributes into an index for each construct. This was done because versatility and picture outcome are formative, not reflective, indicators of constructs just as $b_i e_i$ attribute ratings are formative indicators

of attitude in multiattribute attitude research (cf. Fornell and Bookstein 1982). The indices were created by averaging the versatility score and an average of the two picture outcome measures, and these indices were used to represent each construct in the structural modeling. In contrast, the overall satisfaction construct was operationalized in the structural equations with the four individual measures. In Table 2, we report the correlations among these constructs. The covariances were used in the structural equations modeling.

Tests of the Hypotheses

In Figure 2, we show the standardized estimates of the relationships among the constructs and their t -values.⁴ The χ^2 for the model is 137.76 (40 df, $p < .01$), the goodness-of-fit index is .89, the adjusted goodness-of-fit index is .81, and the comparative fit index is .95. This indicates that the hypothesized model fits the data well in an absolute sense.

The effect of attribute and information satisfaction. Attribute satisfaction and information satisfaction had significant, positive effects on overall satisfaction, thereby supporting H_{1a} and H_{1b} . The two constructs explain 56% of the variation in overall satisfaction. Thus, it appears that overall satisfaction is formed through an assessment of both satisfaction with the product and satisfaction with the information provided by the marketer.

The impact of expectations congruency and desires congruency. Consistent with the traditional model, expectations congruency had a significant effect on attribute satisfaction, but it also affected information satisfaction, showing that at least some of its influence on overall satisfaction is mediated by satisfaction with the information. Thus, H_{2a} and H_{2b} are supported. The proposed model implies that expectations congruency does not directly affect overall satisfaction. To test whether attribute and information satisfaction completely mediate the effects of expectations congruency, a direct path between expectations congruency and overall satisfaction was estimated. There was a nonsignificant increase in the fit of the model (change in $\chi^2 = .01$, $p > .90$), and the path was nonsignificant (standardized path of .01, $t = .13$). Furthermore, the variance explained in overall satisfaction did not increase. Thus, the effects of expectations congruency were completely mediated.

⁴The error terms for the constructs were set to $(1 - \alpha)$ times the variance of the construct. In describing this procedure, Jöreskog and Sörbom (1993, p. 153) state (regarding a model using a construct with a single item), "Although no replicate measure is available for ξ_3 , it is argued that x_5 is a fallible measure. We therefore assume that the reliability is .85. It is argued that an arbitrary value of .85 is a better assumption than an equally arbitrary value of 1.00." Here the reliability was estimated for each index by taking an average of the squared multiple correlations for the picture outcome measures from the CFA. Thus, we go one step further in choosing a reliability estimate that is less arbitrary, because each estimate is based on the reliabilities (1) found for the items that have multiple measures, (2) for the given construct, and (3) in the same study. The reliabilities used were .90 for desires, .95 for perceived performance, .97 for expectations, .89 for desires congruency, .86 for expectations congruency, .93 for attribute satisfaction, and .84 for information satisfaction.

TABLE 1
Measurement Model Factor Intercorrelations

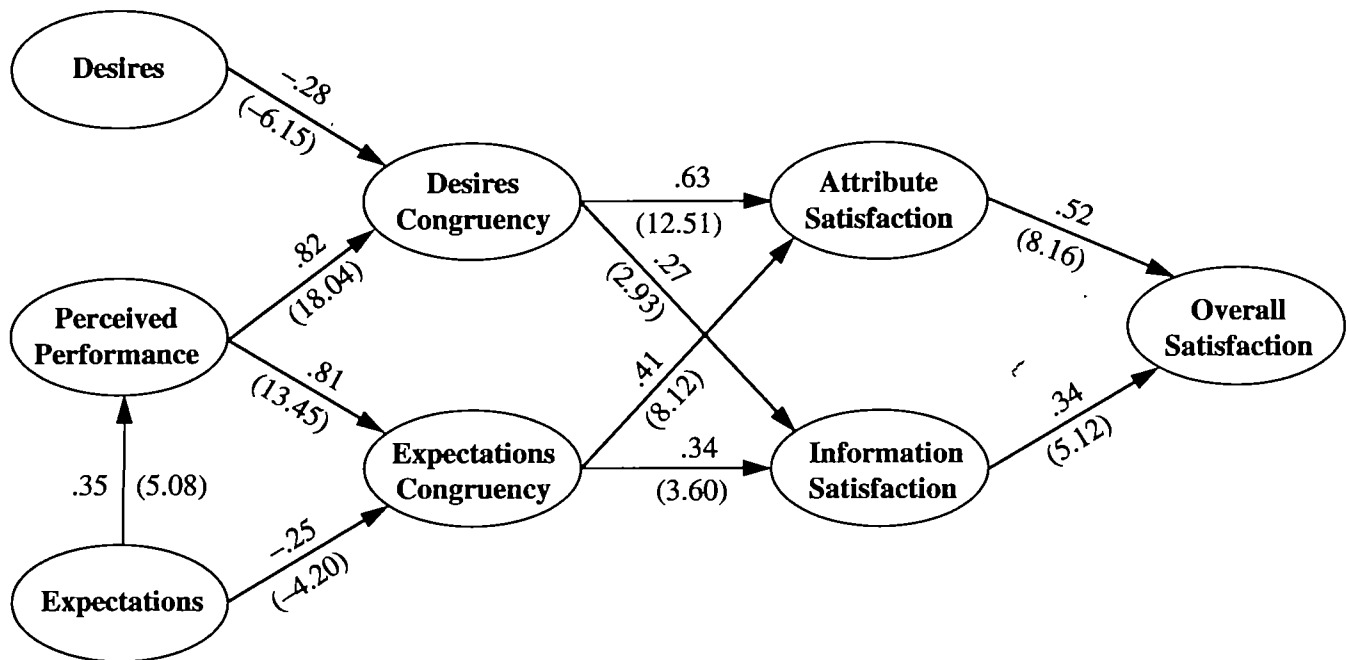
FACTORS	AVE ^a	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Desires Versatility	—	1.00														
2. Desires Picture	.89	.64	1.00													
3. Perceived Performance Versatility	—	.04	.14	1.00												
4. Perceived Performance Picture	.95	.06	.11	.86	1.00											
5. Expectations Versatility	—	.16	.09	.25	.28	1.00										
6. Expectations Picture	.97	.08	.15	.34	.38	.86	1.00									
7. Desires Congruency Versatility	—	-.22	-.18	.64	.58	.11	.15	1.00								
8. Desires Congruency Picture	.88	-.18	-.21	.66	.71	.16	.22	.78	1.00							
9. Expectations Congruency Versatility	—	-.08	.01	.49	.49	-.05	-.01	.62	.58	1.00						
10. Expectations Congruency Picture	.86	-.04	.00	.57	.64	-.02	.05	.59	.82	.72	1.00					
11. Attribute Satisfaction Versatility	—	-.04	.08	.72	.63	.22	.24	.75	.68	.67	.57	1.00				
12. Attribute Satisfaction Picture	.93	.01	-.02	.74	.80	.19	.26	.65	.84	.61	.81	.74	1.00			
13. Information Satisfaction Versatility	—	.03	.04	.32	.33	.12	.12	.36	.34	.30	.33	.40	.40	1.00		
14. Information Satisfaction Picture	.84	-.05	-.14	.30	.39	.00	.00	.33	.44	.35	.51	.37	.56	.57	1.00	
15. Overall Satisfaction	.85	-.03	-.05	.51	.59	.15	.18	.54	.66	.48	.61	.58	.69	.41	.62	1.00

^aAVE = The average variance extracted for the constructs with multiple measures.

TABLE 2
Structural Model Factor Intercorrelations

Factors	1	2	3	4	5	6	7	8
1. Desires	1.00							
2. Perceived Performance	.10	1.00						
3. Expectations	.14	.34	1.00					
4. Desires Congruency	-.22	.70	.17	1.00				
5. Expectations Congruency	-.03	.60	-.01	.73	1.00			
6. Attribute Satisfaction	.01	.79	.26	.81	.76	1.00		
7. Information Satisfaction	-.02	.39	.08	.43	.44	.51	1.00	
8. Overall Satisfaction	-.03	.58	.18	.63	.58	.67	.57	1.00

FIGURE 2
Model Tested With Completely Standardized Parameters^a



^aT-values are in parentheses.

Desires congruency also had significant effects on both attribute and information satisfaction, thereby providing support for H_{3a} and H_{3b} . Again, the proposed model implies that desires congruency does not have a direct effect on overall satisfaction. The influence of desires congruency on overall satisfaction was again completely mediated by information satisfaction and attribute satisfaction. The change in χ^2 was not significant (1.76, $p > .10$), the path was not significant (standardized path = .20, $t = 1.59$), and the variance explained in overall satisfaction did not change. Thus, the mediation of expectations congruency and desires congruency was complete. Desires congruency and expectations congruency explained 88% of the variation in attribute satisfaction and 30% of the variation in information satisfaction.

Examination of the relative effect. The total effect of desires congruency on overall satisfaction (standardized effect of .42, $t = 7.95$) was greater than the total effect of expectations

congruency (.33, $t = 6.84$). The direct effects on attribute satisfaction showed a similar pattern (.63 versus .41). A test of the relative effects was conducted and showed that the two were not significantly different (change in $\chi^2 = 1.46$, $p > .20$). Thus, it is clear that the impact of desires congruency was at least as great as the impact of expectations congruency.

Tests of the positive and negative effects of expectations. We hypothesized that expectations would have a negative effect on expectations congruency (H_{4a}) and a positive effect on perceived performance (H_{4c}), whereas perceived performance would have a positive effect on expectations congruency (H_{4b}). All three hypotheses were supported; the variation explained in performance was .12 and in expectations congruency was .58. We also expected the positive effect of expectations through perceived performance to be stronger than the negative effect of expectations through disconfirmation. When the standardized indirect effects of

expectations on overall satisfaction *through expectations congruency* are calculated, this effect is $-.08$. The standardized effect of expectations on overall satisfaction *through perceived performance* is $.21$. The total standardized effect of expectations on overall satisfaction (both through expectations congruency and through perceived performance) is $.13$ ($t = 2.78$), which supports H_{4d} . Thus, though expectations have both a positive and negative effect on overall satisfaction, the former effect is stronger and overwhelms the effect of the latter.

Furthermore, in Table 2, we show that the zero-order correlation between expectations and expectations congruency is essentially zero. Although this lack of relationship has been found in prior research (see Yi 1990, p. 96), the structural parameters show that they are *not* unrelated. There is a direct, negative effect of expectations on expectations congruency of $-.25$, and there is a positive indirect effect of $.28$ through perceived performance. These opposite effects cancel out, producing a simple correlation of zero.

Finally, the model implies that the effects of expectations on overall satisfaction are completely mediated by the model constructs. To test this, a χ^2 difference test was conducted, in which a direct effect of expectations was estimated. Expectations did not have a *direct* effect on overall satisfaction, which indicates that the proposed constructs completely mediate the effects of expectations on overall satisfaction (change in $\chi^2 = .54, p > .40$).

The effect of desires and performance on desires congruency. Desires had a negative effect on desires congruency (H_{5a}), and perceived performance had a positive effect on desires congruency (H_{5b}), as was predicted. In addition, because the direct effect of desires on overall satisfaction was not significant (change in $\chi^2 = .01, p > .90$), the results indicate that the effects of desires on overall satisfaction were completely mediated by the model constructs.

Test of mediation of perceived performance. To test whether desires congruency, expectations congruency, attribute satisfaction, and information satisfaction completely mediated the impact of perceived performance on overall satisfaction (H_6), a direct effect of perceived performance on overall satisfaction was added to the model. This path was not significant (change in $\chi^2 = 1.12, p > .20$; standardized coefficient of $.11, t = 1.09$), and the percentage variation in overall satisfaction accounted for did not change. This indicates that the strong effect of perceived performance on overall satisfaction is completely mediated by the model constructs, providing support for H_6 .⁵ Thus, the combination of desires congruency and expectations congruency eliminates the residual effect of performance on overall satisfaction, which was observed in previous research based on the disconfirmation of expectations (e.g., Churchill and Surprenant 1982).

⁵In Table 3, we show that perceived performance and satisfaction have a strong relationship, with a zero-order correlation of $.58$.

Discussion

Summary of Results

Overall, the results provide strong support for the hypotheses and help clarify the roles of desires, expectations, and performance in the satisfaction formation process. Specifically, the findings indicate that (1) expectations congruency and desires congruency mediate the impact of expectations, desires, and performance on attribute, information, and overall satisfaction; (2) attribute satisfaction and information satisfaction mediate the impact of expectations congruency and desires congruency on overall satisfaction; and (3) the direct effect of performance on overall satisfaction observed in previous research is completely mediated by the model constructs.

The primary limitation of our study is that these results were obtained under conditions in which subjects used, but did not actually purchase, a product. This may have affected the depth or intensity of their satisfaction reactions to some extent. The severity of this problem, however, was mitigated to some degree through the experimental procedures. Subjects were recruited by asking that they donate some of their time, and in return, the church would receive cash and a valuable product. Thus, all subjects made a sacrifice of their time and anticipated the receipt of actual benefits from the product (through their church). Because they made sacrifices and knew they would receive benefits, we believe they had the potential to experience feelings of satisfaction or dissatisfaction. Nevertheless, further research should seek to replicate these results in a more natural environment.

Contributions of the New Model

Overall the proposed model makes four major contributions to the satisfaction literature: (1) it confirms the importance of desires congruency as a determinant of satisfaction, (2) it integrates multiple standards of comparison into a single framework, (3) it further clarifies the roles of expectations, desires, and performance, and (4) it identifies information satisfaction as a key determinant of satisfaction.

Confirmation of the importance of desires congruency. A key contribution of this research is that it provides a much needed empirical confirmation of the importance of desires as a standard of comparison. Specifically, the results indicate that desires congruency has a significant effect on attribute satisfaction, information satisfaction, and overall satisfaction—over and above the effect of expectations. Although others have discussed the importance of desires as a standard of comparison when forming satisfaction judgments (e.g., Westbrook and Reilly 1983), prior to this study, there was little empirical evidence to support this hypothesis.

This is an important addition to current models of the satisfaction formation process, because incorporating desires into current models of satisfaction eliminates one of the logical inconsistencies of the disconfirmation of expectations model identified by LaTour and Peat (1979). Namely, if a consumer's behavior is constrained to purchasing a product that the consumer expects to perform poorly, and it does, purely expectations-based models of satisfaction illogically

predict the consumer will be satisfied. However, when a consumer's desires are also taken into account, the prediction changes, because the absolute level of satisfaction would be low because the product did not perform as desired.

Recognition of the impact of desires on satisfaction is also important because it helps explain why a consumer's satisfaction with a product may change over time, even though the extent to which the product meets his or her expectations remains relatively constant. For example, if a person's desires change over time because of altered circumstances (e.g., the birth of a child causing the desire for a larger car), increased knowledge about the product category (e.g., more knowledge about nutrition and health leading to a desire for less cholesterol in food), or prior decisions made (e.g., the purchase of a new car triggering a desire for collision insurance), the proposed model predicts that satisfaction changes over time, even though there has been no change in the extent to which the product performed as expected. Thus, we believe that viewing desires as a major determinant of consumer satisfaction and consumer behavior in general has the potential to substantially enrich researchers' understanding of these important phenomena.

Integration of desires and expectations into a single framework. A second major contribution is that the proposed model integrates multiple standards of comparison into a single framework by showing how and why both expectations and desires influence satisfaction. Although the model proposes that both standards are important, it may reduce to simpler forms under some conditions. For example, when a product is new and a consumer has no expectations about it, desires congruency might be expected to dominate. This may be why Churchill and Surprenant (1982, video disk player) and Spreng and Olshavsky (1993, innovative new type of camera) did not find a significant effect of expectations disconfirmation on satisfaction—in both studies the products were innovations. Conversely, when a consumer has purchased and used a product many times (presumably it is meeting his or her desires), then expectations congruency might be more important because of the attention-getting effect of deviations from expectations. Further research should attempt to identify factors that influence the relative importance of desires and expectations as standards of comparison, such as consumer knowledge and experience, confidence in expectations and desires, novelty of the product, source of the information on which the expectations are based, and ease of judging performance.

Further clarification of the roles of desires, expectations, and performance. The proposed theoretical framework also helps clarify the sometimes confusing roles of desires, expectations, and performance. For example, it has been suggested that desires and expectations may simply be different levels of a single standard (e.g., Iacobucci, Grayson, and Ostrom 1994; Zeithaml, Berry, and Parasuraman 1993). Our research does not support this view for two reasons. First, the confirmatory factor analysis at the attribute level indicates that desires and expectations are empirically distinct. Second, the structural equations analysis indicates that desires and expectations have different effects on satisfaction. These findings indicate that expectations

have both positive and negative indirect effects on satisfaction, whereas desires have only a negative effect.

Our research also helps explain the strong effect of performance on satisfaction that has been generally found even when disconfirmation of expectations is in the model. Here, the effect was completely mediated by the model constructs, which indicates that the model provides the cognitive "mechanism by which performance is converted into a psychological reaction by the consumer" (Oliver 1989, p. 2). That is, desires congruency and expectations congruency appear to account for the effect of performance on overall satisfaction. Recall that though Churchill and Surprenant (1982) found a strong effect of perceived performance on satisfaction, they did not include desires congruency. Our results also are largely consistent with those of Spreng and Olshavsky (1993), who found that most of the effect of performance on overall satisfaction was mediated by the combination of expectations congruency and desires congruency. They did find, however, that there was a small residual effect of performance even in the context of desires congruency, which suggests the need for further research to examine when the model does and does not account entirely for the effects of performance.

Finally, the model shows the complex, opposite effects of expectations. As Boulding and colleagues (1993) suggest, raising expectations increases perceptions of performance, but doing so can increase disconfirmation and decrease satisfaction with the information given. Conversely, promising less than can be delivered (i.e., reducing expectations) has the danger of reducing perceptions of performance. That is, if performance is difficult to judge, lowered expectations may cause consumers to perceive a lower level of performance than was actually delivered. Further research is needed to establish more clearly the appropriate managerial actions to take in certain situations. The best or safest route still may be to increase performance. Thus, managing expectations may be more difficult than was originally thought.

Identification of information satisfaction as a key mediator. The final major contribution of this research is the introduction of a new mediating variable that enhances an understanding of the effect of disconfirmation of expectations on satisfaction. An emerging perspective regarding antecedents of satisfaction is to distinguish between desires, which are based on a consumer's means-end linkages, and expectations, which are created by information from the seller (Gardial et al. 1994; Spreng and Dixon 1992; Spreng and Olshavsky 1993). We show that when persuasion-based expectations are disconfirmed, both satisfaction with the product (attribute satisfaction) and satisfaction with the seller-provided information are affected; and satisfaction with the information then affects overall satisfaction.

The observed independent influence of information satisfaction on overall satisfaction is an important enhancement of our understanding of the determinants of overall satisfaction, because it is not difficult to imagine situations in which attribute satisfaction and information satisfaction may be different. Any time consumers are given accurate information about how a product or service will perform, and its level of performance is lower than desired, they are likely to experi-

ence high levels of information satisfaction but low levels of attribute satisfaction. For example, owners of new Volvos who are honestly told that "repair parts may be hard to get (or expensive) in some areas," patients in a dentist's office who are truthfully told "now this is going to hurt a bit," and airline passengers who are told there is a chance that "some flights may be over booked," are all likely to be disappointed if this information turns out to be true. The opposite case of low information satisfaction but high attribute satisfaction is equally common. This situation occurs any time a good product (i.e., one that is better than the others on the market) is "oversold" in promotion. Not only is this a fairly common occurrence, but it is precisely the type of situation that La-Tour and Peat (1979) said leads to "logical inconsistencies" of the disconfirmation of expectations model.

Recognition of the importance of information satisfaction also has several implications for theories of satisfaction. Previous research has found that disconfirmation of expectations does not always have a significant influence on satisfaction, and the new model provides insight as to when expectations congruency should have a stronger effect. Information satisfaction, and hence disconfirmation of marketer-created expectations, are more important in situations in which the consumer is dependent on someone else for information. This may occur when the product is characterized by experience attributes, rather than search attributes (Nelson 1970), or when the consumer does not have the ability or motivation to collect and/or process information. In both of these cases, the consumer may rely on marketer supplied information, and if this information is negatively disconfirmed, the consumer will be dissatisfied with the information. This in turn will influence overall satisfaction. Therefore, a high priority is to test the model in situations in which the consumer's need for information varies, such as comparing products with search versus experience attributes.

The concept of information satisfaction also may provide a means of linking satisfaction with the extensive theory and research in the area of persuasion. Work in social psychology, consumer behavior, and marketing related to source characteristics (e.g., source credibility) and message effects (e.g., number and nature of competitive brands in a comparative advertisement) can be incorporated into satisfaction models by their effect on a consumer's expectations, which then influences overall satisfaction through information satisfaction.

In terms of marketing practice, we believe there is some heuristic value in distinguishing between attribute satisfaction and information satisfaction, because they involve independent elements of the marketing mix (attribute satisfaction is related to the product, whereas information satisfaction is related to promotion). This is essentially no different than in the advertising literature in which beliefs about a product are distinguished from attitudes toward an advertisement of the product, feelings evoked by a product advertisement, beliefs about the credibility of the source of the advertisement, and so on.

Because attribute satisfaction and information satisfaction judgments are responses to two different elements of the marketing mix, they are influenced by different people

in most organizations (e.g., new product development versus promotion). Hence, though both are controllable to some extent by managers, they are not necessarily controllable by the *same* managers; and there often may be tension between those responsible for creating the prepurchase beliefs that facilitate purchase and those responsible for making sure the postpurchase evaluation is positive.

In addition, the identification of information satisfaction as a key mediator of the impact of disconfirmation of expectations on overall satisfaction underscores how important it is for firms to accurately communicate with consumers in their advertising and personal selling. For example, a grocery store that claims, "You're next in line" can create expectations about the length of the wait. If consumers find that they are fifth in line, they are likely to be dissatisfied with the information they received about the store, as well as with the attribute (length of line) itself. Their overall satisfaction is likely to be lower than if the store had never made the claim.

Also, the two types of satisfaction may have unique consequences or moderators that are not part of the conceptual system tested here. For instance, low information satisfaction may be more likely to stimulate negative word-of-mouth communications than low attribute satisfaction, because the consumer may feel cheated. Or, high attribute satisfaction may be more likely to result in repeat purchase than high information satisfaction, and the effects of one type of satisfaction judgment on overall satisfaction may be more enduring and/or more predictive of subsequent behavior. For example, one bad product experience may not have a major influence on repurchase intentions, but low attribute satisfaction in combination with low information satisfaction ("they lied to me just to make the sale") could have a lasting effect.

Furthermore, person, product, or situational moderators may affect one satisfaction judgment more than the other. For example, information satisfaction may be more important for products with lots of experience attributes, because the consumer is dependent on someone else (e.g., the marketer) for information. Other moderators might include attributions (e.g., "why was the information not correct—a simple mistake or they intentionally misled me"), consumer knowledge, or consumer involvement.

In summary, the introduction of the concept of information satisfaction makes several valuable contributions. First, it separates satisfaction judgments that are the result of different elements of the marketing mix. Second, it provides greater insight into various ways in which overall satisfaction can be formed. Third, additional research may find that it has different consequences than does attribute satisfaction. Fourth, it may be differentially influenced by various moderators. Fifth, it helps solve several logical inconsistencies of the disconfirmation of expectations model.

Appendix A

Conceptualization of the Congruency Constructs

The operationalization of both desires congruency and expectations congruency is based on the additive difference

model (Tversky 1969). Normally this model is utilized as a choice heuristic, in which real or imagined alternatives are evaluated two at a time. The model specifies that alternative x is preferred to alternative y on the basis of a comparison between the two alternatives on each attribute. The difference between the two alternatives (for each attribute) is then weighted and summed as the following formula specifies:

$$x \text{ is preferred to } y \text{ if} \\ \sum e_i (x_i - y_i) > 0$$

where

e_i = a weighting parameter of the contribution of the difference for that dimension in the overall preference,
 x_i = subjective value of attribute i for alternative x , and
 y_i = subjective value of attribute i for alternative y .

As applied here, the model decomposes the assessment of desires congruency into two components: (1) a subjective belief based on the comparison of the level desired and the level received and (2) an evaluation of the difference (e_i). Thus, the additive difference model as applied here suggests that the desires congruency construct can be conceptualized as

$$DC_x = \sum e_i (PP_i - D_i),$$

where

DC_x = desires congruency for alternative x ,
 e_i = a weighting parameter that is the consumer's evaluation of the goodness or badness of the difference between the desired and the actual performance,
 PP_i = the consumer's perception of the product performance, and
 D_i = the consumer's desires regarding aspect i .

Similarly, expectations congruency can be conceptualized in the same way—as a comparison between the level expected and the level received—and weighted by an evaluation of the difference.

Operationalization of the Congruency Constructs

Due to the problems associated with the use of difference scores, the difference component as operationalized here is a *subjective assessment* of the difference between the standard and performance and is not a difference score. Thus, the operationalization of the two congruency constructs is as follows:

$$DC = \sum e_i (SDC_i),$$

where

DC = desires congruency for the product,
 e_i = a weighting parameter that is the consumer's evaluation of the goodness or badness of the difference between the desired and the actual performance, and
 SDC_i = the consumer's subjective perception of the congruency between his or her desires (D)

regarding attribute i and the performance of the product (PP) on attribute i .

Expectations congruency is operationalized in an analogous way.

Advantages of the Additive Difference Specification

The additive difference model has several advantages over other combinatorial models. The first is that the model is a more general form of such models as the ideal-point model or value-percept disparity model (Westbrook and Reilly 1983). For example, an ideal-point model specifies that the evaluation of alternative x is

$$A_x = \sum W_i |B_{ix} - I_i|$$

where

A_x = overall attitude toward alternative x ,
 W_i = the consumer's importance weight of attribute i ,
 I_i = the consumer's ideal regarding attribute i , and
 B_{ix} = the consumer's perception of the performance of alternative x on attribute i .

Thus, the ideal-point model maintains that the evaluation of a product is a negative function of the difference between desires and perceptions of performance, which is weighted by the importance of the attribute. This model predicts that any discrepancy from what is desired will be evaluated negatively. That is, differences from the ideal cannot be positively evaluated. The ideal-point model is a special case of the additive difference model in which the e_i is constrained to be a constant (W_i) that varies only across attributes and not as a function of the magnitude or direction of the difference between B_{ix} and I_i , as is possible in the additive difference model.

Using a similar combinatorial model, Westbrook and Reilly (1983) and Myers (1988) examined the value-percept disparity model. This model is specified as

$$A_x = \sum |B_{ix} - V_i|,$$

where

A_x = overall attitude toward alternative x ,
 V_i = the consumer's desires or needs regarding attribute i , and
 B_{ix} = the consumer's perception of the performance of alternative x on attribute i .

This model also is a special case of the additive difference model, because the e_i is assumed to be equal to 1.

The second advantage of the additive difference model is that both the ideal-point model and the value-percept disparity model suggest that congruency evaluation is a negative function of the comparison between desires and perceived performance (or between expectations and performance), because any discrepancy from what is desired (expected) will be negatively evaluated (Myers 1988; Westbrook and Reilly 1983). Although this is true for some attributes (e.g., more sweetness in a soft drink than desired), for other attributes it is not (e.g., better-quality photographs

TABLE A1
Comparison of Ideal-Point Model and
Additive Difference Model

Model	Weight	Desire	Get	D-PP	Desires Congruency
Ideal-point	5	30	20	10	$5 \times 10 = 50$
	5	30	10	20	$5 \times 20 = 100$
Additive Difference	-1	30	20	10	$-1 \times 10 = -10$
	-3	30	10	20	$-3 \times 20 = -60$

than desired). In the latter case, both alternative computational formulas show lower evaluation when performance is different from that desired. Furthermore, performance that differs from expectations can certainly be evaluated positively. In contrast, if the evaluation of the difference (e_i) is scaled, for example, from -5 to +5, this model enables performance that differs from what is desired to have a positive effect on the evaluation of the product. Although it is probable that in the case at hand (as well as with most other cases) any deviation from desires will be evaluated negatively, the additive difference model does not need to be restricted in this way.

Third, the e_i in the additive difference model differs from the importance weighting of the ideal-point model. The e_i can vary over different size discrepancies (i.e., the e_i is nonlinear), whereas the weighting factor in the ideal-point model is the importance of the attribute and hence is the same for all discrepancies for a given attribute. For example, assume that a consumer wants a car that gets 30 miles per gallon and is evaluating a car that gets either 20 or 10 miles per gallon. The ideal-point model assumes that the weight is the same for all differences for this attribute, and here it is assumed that this weight is 5. The additive difference model does not assume that the evaluation of the difference is the same for differing levels of discrepancy. Thus, a doubling of the discrepancy no longer results in a doubling of incongruity but in an evaluation that is six times worse, because the evaluation is of a particular difference between what was desired and what was received, rather than of the attribute as a whole (see Table A1).

Fourth, this operationalization also addresses the problem that Teas (1993) notes with operationalizations of congruency constructs. He states (p. 19) that "the P-E [performance-expectations] measurement specification as expressed in equation 1 suggests that perceived quality (Q_i) increases as P increasingly exceeds the ideal point." He points

out, however, that if an attribute is a finite ideal-point attribute, then the difference score operationalizations are not valid. For example, assume a subject desires a level of an attribute of 4—say, a moderate level of versatility in a camcorder. If the subject receives a level of performance of 1 (not at all versatile), the P-D formulation is $1 - 4 = -3$. If the subject receives a level of performance of 7 (an extremely versatile camcorder), the P-D formulation is $7 - 4 = 3$. Thus, both are evaluated negatively by the subject, but the P-D model gives opposite results. Some have argued for taking an absolute difference, which assumes that anything different from desires is negatively evaluated (e.g., Westbrook and Reilly 1983), but this does not allow for vector attributes. In fact, this may be one of the reasons that Westbrook and Reilly's (1983) results were not more supportive of the influence of values. This is where our model has an advantage. It enables the subject to assess the degree of discrepancy between his or her desires and the performance. The subject can then rate whether this difference is good or bad. This solves the problem of difference score formulations for vector versus finite ideal-point attributes. Using the previous example, in either case the subject might say that performance was different than desired—say, a 4 on our 1 = "exactly as desired" to 7 = "very different than desired" scale. Then the subject would rate how good or bad this was. In the case of a vector attribute, a difference could be rated either positively or negatively. In our example using a finite ideal-point attribute, either situation would be evaluated negatively. But again, the evaluation component is not like a weight in most ideal-point models, because discrepancies in one direction need not be evaluated the same way as discrepancies in the opposite direction. Continuing with this example, it is possible that a camcorder that is not versatile enough (below the finite ideal point) could be evaluated more negatively than one that is more versatile than desired (above the ideal point).

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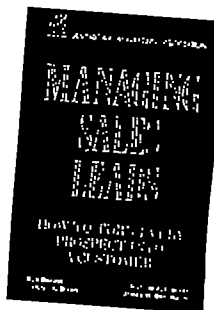
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Enhancing Helping Behavior: An Integrative Framework for Promotion Planning

Charitable organizations play a vital role in our society, as is evidenced by their enormous economic and social impact. Yet, for many of them, soliciting adequate resources to carry out their mandates is a continuing struggle. Confronted with a growing need for their services, fierce competition from other charities, and shrinking support from government agencies, charities may turn to marketers for help in developing effective promotional strategies. Unfortunately, marketing literature is unable to provide meaningful guidance because scant research attention has hampered a fuller understanding of why people help. The authors integrate relevant research in marketing, economics, sociology, and social psychology to advance theoretical understanding of helping behavior. They develop research propositions regarding specific promotional strategies that charitable organizations can employ to elicit help.

The charitable impulse—reaching out to help another in need—is recognized as a universal human value. Yet, the economic and social impact of helping behavior is frequently overlooked. From an economic standpoint, helping is big business. In 1993, for example, Americans donated approximately \$103 billion to charitable causes (American Association of Fund-Raising Counsel 1994). From a social standpoint, these contributions enable charities to be socially responsive, by delivering services that are not adequately provided by either business or government (Kotler 1979).

Eliciting help for charity has never been an easy task. Nearly two decades ago, Rothschild (1979) alerted marketers to the difficulties in trying to sell “brotherhood” as they would soap. Specifically, selling soap—or other for-profit goods and services—involves stressing the value directly received by customers in return for their dollars. In contrast, selling “brotherhood” involves charities asking people to donate some resource (e.g., time, money, blood) with little or no commensurate reward in return. Although social marketing has always been challenging (Bloom and Novelli 1981), the current environment makes eliciting help especially daunting. Charities today must grapple with a growing need for their services, shrinking government support for their causes, and fierce competition with other charities. It is becoming more critical—and more difficult—for charities to elicit help from individual donors.

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To succeed in such an environment, a charity must rely on an effective promotional strategy: a controlled, integrated communications program to present itself and its services to prospective donors (Engel, Warshaw, and Kinnear 1994). Unfortunately, marketing literature, which is rich in research and theorizes about promoting for-profit products and services, offers little guidance to charities on how to promote helping. This neglect is puzzling given marketing scholars' characterizations of helping behavior as “crucially important ... and virtually undescribed” (Sherry 1983, p. 157), and “disjointed and void of theoretical underpinnings” (Burnett and Wood 1988, p. 2). Because of this gap in current knowledge, we seek to develop a better understanding of helping behavior, which in turn is used to suggest promotional strategies for charities. The article is organized as follows. We begin with an overview of the construct of helping behavior and review the research in marketing in this area. Next, we draw on the research in different disciplines, such as economics (e.g., agency theory, strategic altruism), sociology (e.g., normative influences, social comparison), and psychology (e.g., social impact theory, reactance theory) to identify factors that affect helping behavior. A discussion of the donor's helping decision process follows. At each step of the process, we explore how specific aspects of the charity's promotion may affect the helping decision. These interventions are presented as testable propositions. Finally, we address theoretical and practical implications and directions for further research.

People's Helping Behavior Toward Charitable Organizations

Definition and Literature Review

Helping behavior defined. Helping behavior may take many forms, from the trivial (giving directions to a stranger

who is lost) to the magnificent (risking your life to save a drowning victim). It may involve one person helping another or a person helping through an intermediary organization (e.g., making a donation to the Red Cross). Organizations also help in both fashions: by directly aiding the needy (a church group adopting a needy family) or through an intermediary organization (e.g., corporate philanthropy, cause-related marketing; Varadarajan and Menon 1988). We focus on people helping the needy through intermediary charitable organizations.

But what constitutes help? The answer appears to vary across disciplines. Economists (e.g., Margolis 1982) focus on the consequences to the helper: Behavior is deemed "helping" only if the costs of the behavior exceed the benefits; that is, there is some sacrifice involved. Sociologists (Piliavin and Charng 1990) and psychologists (see Krebs and Miller 1985) focus on the motives behind the help: Is the motive to enhance the welfare of the needy (altruistic motive) or is it to somehow enhance a person's own welfare (egoistic motive)? The marketing discipline appears to focus on consequences to the help recipient—behavior is deemed helping when it enhances the recipient's welfare. Hence, donating time, money, blood, body parts, and so on are all deemed helping behavior. Despite these differences, there is

a growing consensus that to understand helping behavior, it is important to understand all of these facets: the consequences to the recipient and the helper and the motives for providing help (Simon 1993). From the perspective of charitable organizations, the following definition of helping behavior seems appropriate: behavior that enhances the welfare of a needy other, by providing aid or benefit, usually with little or no commensurate reward in return.

People Helping Through Charitable Organizations: A Review of Marketing Literature

In Table 1, we provide an overview of the literature on helping behavior in leading marketing journals for over the past 20 years.¹ One striking fact is the paucity of marketing stud-

¹A computerized search was undertaken of the following journals from 1971 onwards: *Journal of Advertising*, *Journal of Advertising Research*, *Journal of Consumer Policy*, *Journal of Consumer Research*, *Journal of Macromarketing*, *Journal of Marketing*, *Journal of Marketing Research*, *Journal of Professional Services Marketing*, and *Journal of Public Policy & Marketing*. In addition, all marketing journals from the year 1987 were included.

TABLE 1
Marketing Studies Dealing With Helping

Study	Type of Helping	Focus	Findings
Pessemier, Beamon, and Hanssen (1977)	Intention to donate body parts (survey)	Donor characteristics	Significant demographic and psychographic differences exist between those who are willing and those who are not willing to donate body parts.
Reingen (1978)	Face-to-face funds donation	Size of request	Insignificant differences between foot-in-the-door (FID) and door-in-the-face (DIF), with or without adding even-a-penny-will-help. All of these more effective than the control (request only) condition.
Mindak and Bybee (1979)	Case study of March of Dimes	Application of marketing principles	Applying target marketing, segmentation, marketing audit, and so on increased the funds received.
Burnett (1981)	Blood donors and nondonors (survey)	Donor characteristics	Significant differences exist between donors and nondonors on demographic and attitudinal variables.
Burnkrant and Page (1982)	Behavioral intentions in blood donations	Type of request	Tests Fishbein's behavioral intention model. Both attitudinal and normative influences found to affect behavioral intentions.
Soukop (1983)	Markov analysis	Donor mailing lists	High costs of fund-raising justified in attracting new donors.
Blockner and colleagues (1984)	Face-to-face and telephone funds donation	Size of request	Legitimization effective for differing suggested amounts and face-to-face as well as telephone contacts.
Moore, Beardon, and Teel (1985)	Panel and laboratory studies of advertisement evaluations	Type of request. Beneficiary portrayal	Labeling was effective and dependency claims were ineffective.
Danko and Stanley (1986)	High-income households' donations (survey)	Donor characteristics	Significant differences exist between heavy and light donors on select demographic variables.

Study	Type of Helping	Focus	Findings
Fern, Monroe, and Avila (1986)	Metanalysis of size of request studies	Size of request. FID and DIF	FID is effective when initial behavior is performed. DIF is effective when there is less delay between requests and the requests are made by the same requestor.
Riecken and Yavas (1986)	Donations to nonprofit organizations	Opinion leaders and recipients	Greater proportion of opinion leaders than recipients donated to nonprofit organizations (self-reports).
Fraser, Hite, and Sauer (1988)	Face-to-face funds donation	Size of request	Large anchor point effective to raise size of donations. Legitimization effective to raise rate of compliance.
Dawson (1988)	Monetary donations and volunteering	Survey of motives for giving and volunteering	Reciprocity and income motives predict giving as did household assets and age. Volunteers not higher on career motive than others.
La Tour and Manrai (1989)	Field experiments on blood donations	Type of request	Interaction of informative and normative requests more effective in generating blood donations than either one singly.
Guy and Patton (1989)	Conceptual framework	Motivation for helping/ process	Altruistic motive for helping; internal and external mitigating factors.
Schlegelmilch Tannin (1989)	Survey of donations	Type of request	People who donate in street collection, door-to-door, and so on—differ in demographic characteristics.
Allen and Maddox (1990)	Blood donations	Donor perceptions and awareness of blood donations	Three of four clusters of blood donors exhibited skepticism regarding blood donation, misinformation and uncertainties.
Harvey (1990)	Benefit segmentation	Donor characteristics	Demographic and psychographic correlates exist for donor segments.
Barr, Dave and Amin (1991)	Attitudes toward one charitable organization	Survey of awareness and perception	Identified unmet needs by United Way of Horry County; low awareness in community of services offered by the organization.
Horton (1991)	Conceptual—Organ donation	Type of request	Low involvement media to get attention. High involvement media later in decision process.
Meyers-Levy and Maheswaran (1992)	Donation to Save the Children	Type of request—timing of aversive negative outcome	More intent to donate, counterfactual thoughts with short (versus long) time lag for low-involvement ; no difference for highly involved.
Yavas, Riecken and Babakus (1993)	Monetary donations and intentions to donate	Perceived risk (likelihood of loss and importance of loss)	Perceived risk was not a good predictor of donation behavior; however, it improves prediction when used in conjunction with demographic variables.
Allen and Butler (1993)	Blood donation intention	Donor knowledge and risk perception	Knowledge not inversely related to risk; may accentuate risk. Perceived risk inversely related to blood donations.
Bagozzi and Moore (1994)	Public service advertisement	Type of request. Emotional appeal	Empathic emotional responses elicited greater willingness to help. Empathy was greater in the strong versus the weak emotional advertisement.
Cermak, File, and Prince (1994)	Benefit segmentation	Major or wealthy donor market	Wealthy donors classified into four segments on demographic and psychographic variables.
Broadbridge and Horne (1994)	Volunteering for charity retail stores	Demographics and motivation	Majority were white women, over 55, married or widowed. Reasons were affiliation with charity not experience with retailing.
Schibrowsky and Peltier (1995)	Field experiment on fund-raising	Size of request	The size of the request affected the percentage of givers and the size of giving.

ies in this area; of the several thousand studies published, only 27, or less than .5%, deal with helping. A similar pattern holds for conference proceedings as well. Over the past 10 years, on average, less than 1.5% of the articles in the proceedings of the American Marketing Association and the Association for Consumer Research deal with helping geared toward charities.

The few studies that have examined helping behavior have focused on select aspects of the charitable organization's solicitation strategy. For example, 5 of the 27 studies reported in Table 1 deal with the amount of donation requested. The type of request (e.g., whether labels such as "helpful" are used) is the focus of 7 studies. Although the attention to these issues is well deserved, the literature has not adequately addressed other equally important issues, such as social norms for helping and donor perceptions. Also ignored are other dimensions of the organization's solicitation strategy, such as the familiarity of the charity and the portrayal of the help recipient. It is important to integrate all of these effects, because helping behavior most likely is a function of all of these influences.

Two calls for such an integration come from studies by Burnett and Wood (1988) and Guy and Patton (1989), both of which make laudable efforts to generate greater attention to helping behavior from marketers. These authors review some of the theoretical underpinnings of helping behavior and propose models of the donation decision process. We extend these earlier works in three important directions. First, we explicitly account for the diverse motivations that underlie helping behavior to answer the question, Why do people help? Both Burnett and Wood and Guy and Patton suggest that this is a key issue and conclude that diverse motivations may differentially affect the person's helping decision process. However, the different motivational routes are not built into their proposed models. Second, we specifically address the role of the soliciting charitable organization in the helping decision process. Most work in helping behavior has focused on the help that is rendered directly from a donor to a needy beneficiary. In contrast, a charity acts as an intermediary between the donor and the ultimate beneficiary. As Burnett and Wood (p. 35) note, though there is a great deal of research on direct help by the donor to the beneficiary, "we know nothing about the relative impact of the agent representing the recipient." Third, in examining donor motivations and organizational context in tandem, we present testable propositions on promotional strategies for charities.

A Conceptual Framework of Help Rendered to Charitable Organizations

A conceptual framework delineating helping behavior and its antecedents, moderators, and consequences is shown in Figure 1. Several variables may affect the help rendered to a charity: Some can be controlled by the charity (e.g., its appeals for help), whereas others are beyond its direct control (e.g., the state of the economy). We present the controllable promotional variables as antecedents of helping behavior and the uncontrollable variables as moderators that affect

the relationship between the antecedent variables and the helping behavior.

Antecedents. The charity may affect helping behavior through several antecedent variables under its control. For example, within its promotional program, the charity may control *source variables* (i.e., variables relating to the charity's image, such as whether it is perceived as efficient), *message variables* (e.g., whether it emphasizes the beneficiary's similarity to the potential donor), and *request variables* (e.g., whether the requested help involves money, time, blood).

Moderators. The impact of the promotional variables on helping behavior may be moderated by several uncontrollable factors. For ease of exposition, we have divided these into *donor* and *nondonor* variables. Some donor variables are persistent; that is, they persist across solicitations. These include *perceptions* (whether the cause is perceived as worthy), *motives* (whether the motivation is egoistic, such as gaining praise for helping, or altruistic, such as alleviating the need), and *abilities* (e.g., the donor's physical, financial, or psychological resources). Other variables are transient or specific to a solicitation. These include *mood state* (e.g., whether the donor is in a good mood when exposed to the appeal for help), *media exposure* (e.g., whether the donor watches the television program in which the solicitation is made), and *attention* (e.g., whether distractions in the environment prevent attending to the appeal). Whether help is rendered also may be affected by nondonor variables, such as *government policies* (e.g., tax deductions), the *state of the economy* (e.g., whether the economy is in a recession), *social norms* (e.g., greater giving at Christmas time, particularly to children's causes), *technology* (e.g., medical advances in transplanting body parts), and *competing charities* (e.g., appeals, perceived relative efficiency).

Behavior. In response to the solicitation, the potential donor may respond with different degrees of helping behavior. One response may be not to help at all. If the donor chooses to help, it may be either token help (e.g., making a modest contribution to get rid of a persistent solicitor) or serious help (e.g., a substantial contribution to address the need).

Consequences. The consequences of helping behavior are manifold. First, the obvious consequences for the beneficiaries are whether their need is relieved. Second, there are consequences for the charity: The help generated determines the charity's level of success and aids adaptation by providing feedback in planning future solicitations. Third, there are social, cultural, and economic consequences for the donor's community, even when the beneficiary is not part of it (e.g., a person in the United States contributes to famine relief in Africa). Helping may affect the community's attitudes regarding the roles of private charities versus public institutions in helping the needy. It also may affect the number and growth potential of competing charities in the community. Finally, there are consequences for the individual donor. The degree of help given may affect the donor's future perceptions (e.g., learning about the charity by helping may lead to a more positive perception), motives (e.g., a person who feels guilty about not helping in the past may

help later to relieve the guilt), and abilities (e.g., the size of prior help may affect the ability to provide future help). Most significant for the charitable organization, prior helping behavior may affect future helping behavior.

Clearly, the task facing the charity is to adapt those variables under its control to the uncontrollable variables in the environment so as to generate the greatest helping. Discussing all these variables is beyond the scope of our article. We focus instead on how the charity may adapt its solicitation strategy to critical donor variables. Toward this end, we present a synthesis of insights into the donor decision process, drawing on work in marketing, economics, sociology, and social psychology. Next, we examine specific charity-controlled variables as interventions that affect the helping decision process and present propositions regarding promotional strategies to maximize the likelihood of help.

The Donor's Decision Process: Propositions on Promotional Strategy

We focus on generic helping rather than on specific forms of help, such as donating blood, versus money, versus time, and so on. The decision process must be adjusted for different kinds of helping, such as emergency versus non-emergency helping, planned versus spontaneous helping, or doing versus giving (Smithson, Amato, and Pearce 1983). There also are likely to be modifications based on the severity of the request. For example, the request to donate a body part evokes a more involved decision process than one to donate a dollar to charity (Simmons, Marine, and Simmons 1987). However, the basic steps in the decision processes are the same for different kinds of helping (Smithson, Amato, and Pearce 1983). It is the commonness of such "generic" helping that is our focus. The generic helping decision process involves four sequential steps: (1) perception of need, (2) motivation, (3) behavior, and (4) consequences (Batson 1987; Krebs and Miller 1985). In Figure 2, we present a map of the helping decision process and graphically summarize the propositions.

As is shown in Figure 2, the helping decision process is not linear—it may be truncated at many junctures, leading to noncompliance with the help request. Charities wishing to shepherd donors through the decision process therefore must be sensitive to these critical choice points. We subsequently discuss specific steps in the decision process and propositions regarding charities' promotional strategies.

Step One: Perception

The helping decision process typically begins with the potential donor's perception that the charity is in need of help. This perception may be triggered by personal experience (a harsh winter may remind a person of the need for warm clothing in a shelter for the homeless) or exposure to information. The information may come from personal sources such as family and friends or from nonpersonal sources. The nonpersonal sources may include appeals from the charity itself or media reports regarding the charity or the cause.

Perception of need may not result automatically when donors are exposed to the charity's appeal for help. It is generated only when the prospective donor perceives a significant gap between the beneficiary's current and ideal states of well-being or between what is and what should be (Batson 1987). The charity may influence this need perception through its image, its depiction of the cause of need, and its portrayal of the beneficiary.

For perception of need to result, prospective donors first must believe the charity's message depicting need. Whether they do so may be a function of the charity's image. Social psychological literature shows that messages are more likely to be accepted when the messengers are familiar and credible than when they are not (Kelman 1961). Consequently, donors may be more likely to accept the portrayal of need when it comes from familiar and credible charities. When the charity's image is lacking—when it is obscure or lacks credibility—prospective donors may either ignore the message or even distort it (e.g., "the message merely hypes up need to manipulate donors"). The image of the charity thus may be the single most critical element of its promotional program because it may determine whether the first step of the helping decision process—perception of need—is initiated.

Why should donors rely on charity image? Charities are intermediaries promising to act on behalf of donors, by reliably delivering the help to needy recipients. In agency theory terms, donors are *principals* who rely on charities to act as their *agents* in disbursing help (Stark 1989). A major concern for principals in such relationships is the problem of adverse selection, that is, the problem of choosing the right agent—the one with desirable characteristics such as efficiency or effectiveness. For donors, the charity's image may provide cues as to how well it will function as their agent. Consistent with this reasoning, studies show that messages from charities that are perceived as familiar or well known, efficient, and effective result in greater perceptions of need and greater helping behavior (Harvey 1990).

Familiarity is typically measured in terms of general awareness of the charity; it is a measure of whether the charity is high or low profile. Being high profile is not necessarily good: the charity may be high profile for the wrong reasons (e.g., being cited for mismanagement or fraud). Efficiency and effectiveness deal with how well the charity functions. Efficiency is the proportion of donations that goes to the ultimate beneficiaries, as opposed to administrative or fund-raising activities, for example. Effectiveness refers to the charity's perceived success in meeting its objectives.

Does the charity's image have the same influence in all solicitation contexts? Social impact theory (Latane 1981) suggests not; the influence of the charity's image may be a function of the media context in which the appeal is made. Social impact theory proposes that people pay more attention to immediate cues than to remote cues, because the former have greater social impact. How much donors rely on the charity's image may be determined by whether more immediate cues are available. For example, if a charity's appeal for help is presented in a door-to-door campaign, the number, sex, appearance, and so on of the solicitors are more immediate social cues than the charity's image and

should have greater social impact. If the appeal is presented in the mass media, however, potential donors do not have other, more immediate cues on which to rely, and hence the charity's image may have more impact. The previous discussion leads to the following:

P_{1a} : The perception of need and, consequently, helping behavior depends on the charity's image. The greater the charity's perceived positive familiarity, efficiency, and effectiveness, the greater the need perception and helping behavior.

P_{1b} : The impact of the charity's image varies by media context. It has a greater impact in mass media appeals than in personal solicitations (e.g., door-to-door, telephone).

Charities also may influence the perception of need through their explanations about the cause of need (Krebs and Miller 1985). Perception of need and, consequently, helping appears to be greater when the beneficiary's need is caused by external, uncontrollable factors than when it is caused by his or her own actions (Griffin et al. 1993). There is theoretical support for this finding in organizational jus-

tice literature (Tyler 1994), which suggests that people are concerned about the fairness of allocated outcomes (distributive justice) and the procedures used to allocate the outcomes (procedural justice) (Bies 1987; Greenberg 1987). People asked to allocate resources are concerned about the fairness or equity of the allocation: Outcomes should be consistent with inputs (Tyler 1994). When beneficiaries appear to have caused their own need, the outcomes (their need) may appear consistent with their inputs; hence, potential donors may not perceive any need. However, when people appear to be needy through no fault of their own, the outcome may be perceived as inequitable and donors may seek to restore justice by acknowledging the need and helping to reduce it. For example, in response to the 100 "neediest" cases advertised in the *New York Times*, more donations were given to people whose need appeared to be not of their own doing (e.g., abused children) than to people who *seemed* to have "caused" their own need (e.g., recovering alcoholics) (Berkowitz 1972).

FIGURE 1
A Conceptual Framework of People's Helping Behavior Toward Charities

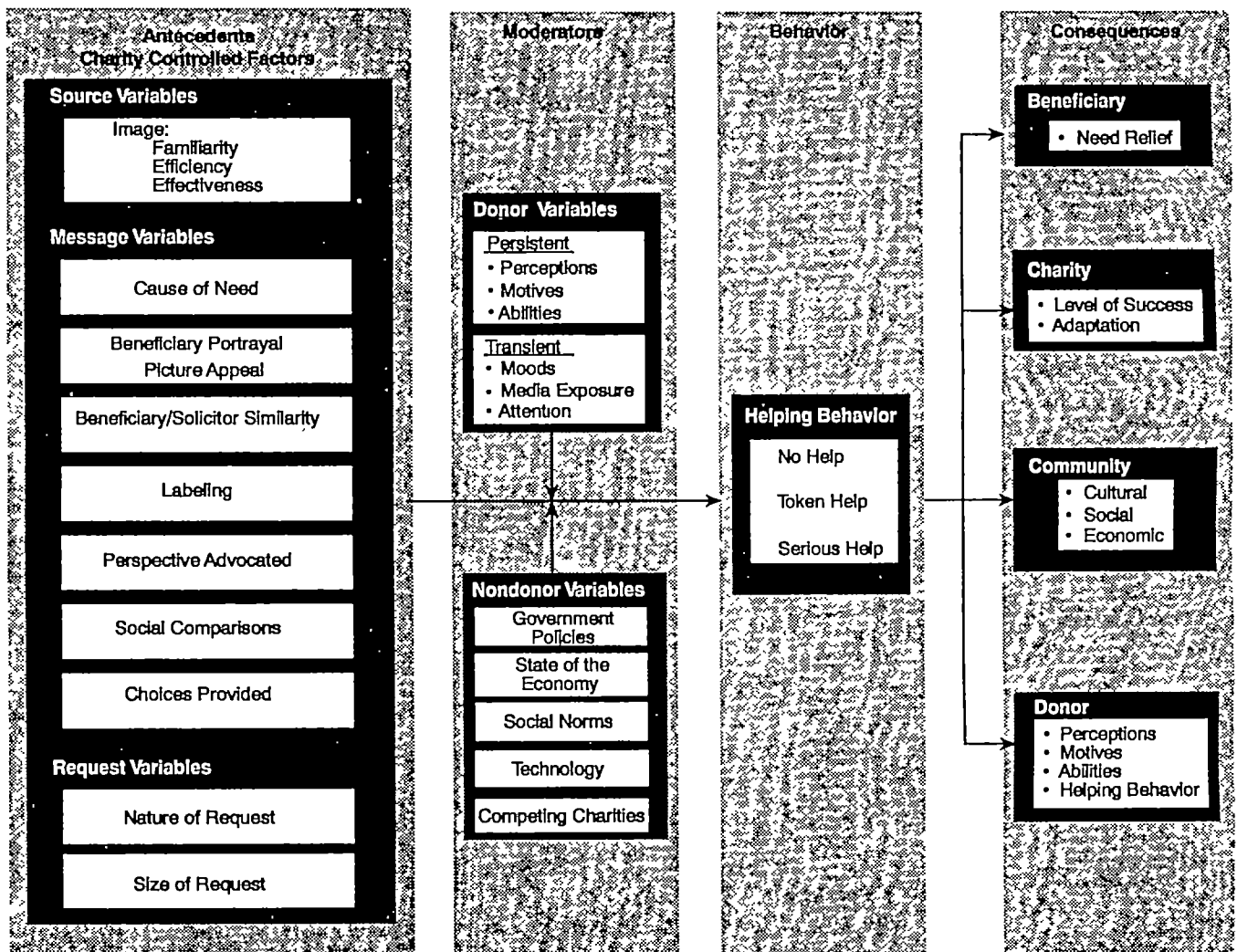
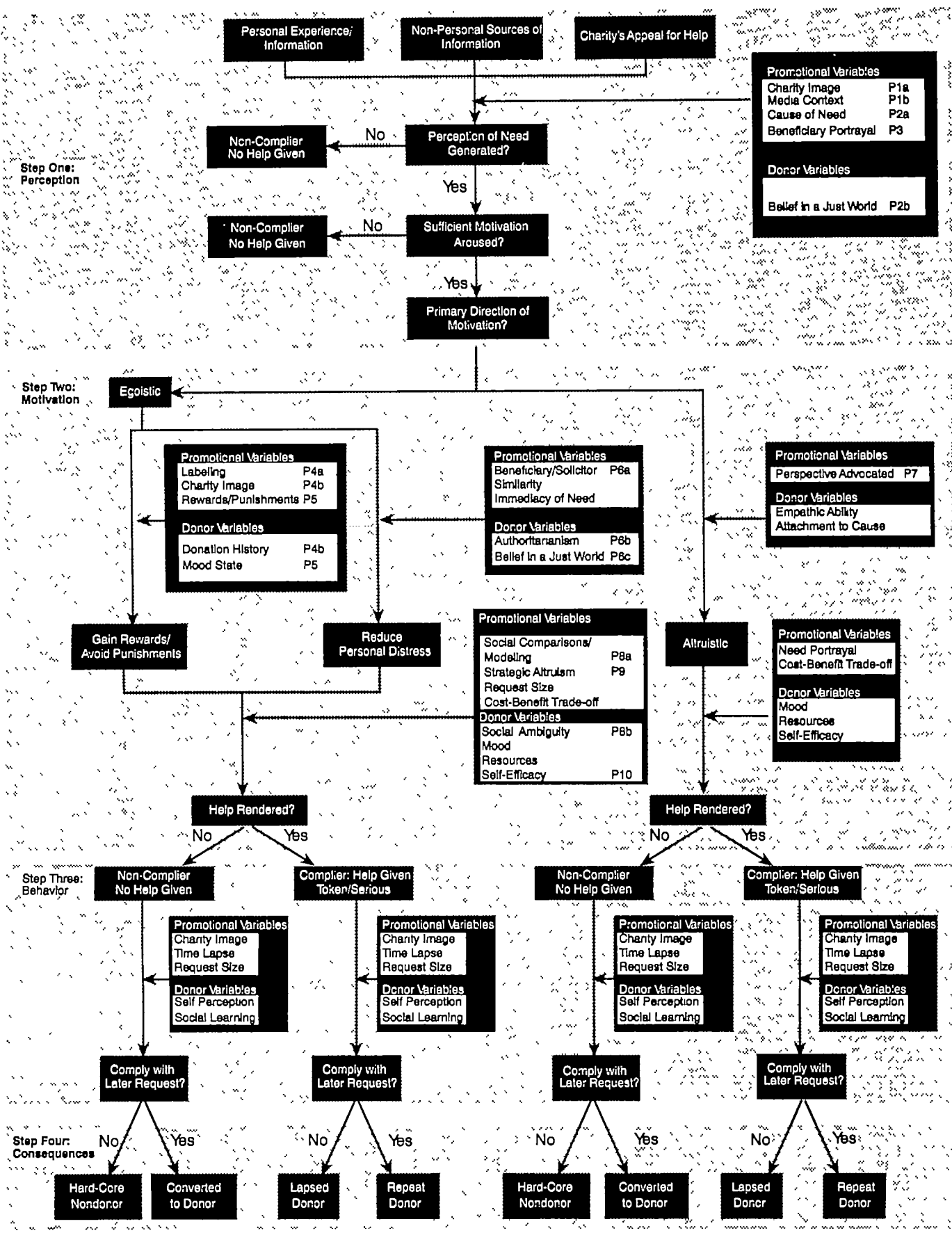


FIGURE 2
A Process Map of People's Helping Decisions



The effect of the cause of need may be moderated by one manifestation of the distributive justice motive, a personal characteristic termed *belief in a just world* (Lerner 1980), which is the belief that this is a just world in which people get what they deserve in life. To a person who holds this belief, the suffering of an "innocent victim" (e.g., a person who contracted AIDS through a blood transfusion) seems undeserved—the gap between the current and ideal states is high—and the need seems extremely salient. On the other hand, when confronted with people whose suffering seems to be self-induced, this person does not perceive a gap between the current and ideal states ("After all, they merely got what they deserved"). Thus, a person with a high belief in a just world may be more inclined to donate to breast cancer research (a disease perceived to be outside the victim's control) than to lung cancer research (a disease—rightly or wrongly—perceived to be a result of the victim's choice to smoke).

P_{2a}: The perception of need and, consequently, helping behavior is affected by the perceived cause of need. Need perception and helping are greater when the need is perceived to be due to external causes outside the beneficiary's control than to internal causes under the beneficiary's control.

P_{2b}: The greater the potential donor's belief in a just world, the stronger the association between the perceived cause of need and helping.

As we discussed previously, prospective donors perceive need when they believe that a gap exists between the beneficiary's current and ideal states. Charities typically attempt to increase the salience of the gap through their beneficiary portrayal. This issue is fraught with difficult choices. The beneficiary portrayal must be strong enough to command attention but not so strong that it is viewed as manipulative. If appeals are viewed as a hard sell, helping may actually be lessened (Moore, Bearden, and Teel 1985). In treading this fine line, a critical issue for a charity is whether to emphasize the need by including a picture in its appeals. Furthermore, if a picture is used, should it portray a needy beneficiary or a helped beneficiary? The answers are unclear because there are only two studies of the use of pictures, and their results are contradictory.

Isen and Noonberg (1979) report that in a door-to-door solicitation, the use of a needy beneficiary picture appeal (a starving child) in conjunction with a verbal appeal resulted in lower helping than the use of the verbal appeal alone. Thornton, Kirshner, and Jacobs (1991) report that under identical conditions, there was no significant difference between the two conditions. To explain these contradictions, Thornton, Kirshner, and Jacobs speculate that the picture appeal had no effect because the solicitors might have had so much social impact that donors ignored the picture; however, this does not account for the reduced helping reported by Isen and Noonberg. Isen and Noonberg propose that the needy picture appeal may have reduced helping because it (1) created a bad mood in donors, (2) made the task cognitively complex, or (3) created reactance in potential donors. The mood explanation is not tenable, because a bad mood does not always reduce helping; at times, it increases helping (for a review, see Clark and Isen 1982). The cognitive

complexity explanation is unconvincing because pictures actually make messages easier to process (e.g., Childers and Houston 1984). Reactance formation, however, remains a plausible explanation for the observed results.

Reactance theory (Brehm 1966) posits that people possess certain behavioral and attitudinal freedoms. When these freedoms are threatened by persuasive appeals, reactance is aroused. The charity's appeal, for example, may threaten the donor's freedom to spend money or time in another fashion. When the charity uses too strong an appeal for help (e.g., combining a verbal appeal with a needy picture), it may be seen as manipulative or threatening to the potential donor's freedom to not help. This may cause strong reactance: The donor may react by minimizing the perceived need and not complying with the help request. If, however, a verbal appeal is combined with a picture of a helped beneficiary (e.g., a woman safe in a battered woman's shelter), it may be less threatening to the donor's freedom not to help. That is, the helped picture may reduce the reactance caused by the verbal appeal and, thus, increase the level helping.

P₃: Perception of need and, consequently, helping is affected by beneficiary portrayal. Compared to a verbal appeal only, adding a needy beneficiary picture should result in lower perceived need and helping, whereas adding a helped beneficiary picture should result in greater perceived need and helping.

Step Two: Motivation

The motivation for helping may be egoistic, altruistic, or both. Egoistic motivation has the ultimate goal of increasing a person's own welfare (Martin 1994). It has been further distinguished into two categories based on the focus of a person's concern for him- or herself (Batson 1987). The first category is the motivation to gain rewards for helping or avoid punishment for not helping (Cialdini et al. 1987). These rewards and punishments include intangible cognitive and psychological outcomes, as well as tangible benefits and penalties; they also may be conferred by self (e.g., pride versus guilt) or by society (e.g., praise versus censure). This category comprises such motivations as securing recognition, a sense of belonging, career advancement, tax advantages, peer pressure, and political gains (American Association of Fund-Raising Counsel 1994).

The second category deals with a different egoistic response—that of concern for a person's own distress (Piliavin et al. 1981). When confronted with someone who is needy, a person may experience distress. The person then may try to reduce personal distress by helping or escaping the need situation (e.g., ignoring the message). The motivation is egoistic because even when it results in helping, the ultimate goal is to reduce the donor's personal distress.

Altruistic motivation, in contrast, has the ultimate goal of enhancing the welfare of the needy (Martin 1994), even at the expense of a person's own welfare. Although the term altruism is fairly new (coined by Comte 1851), the debate over whether true altruism exists—that is, whether behavior can be motivated by other than obvious or subtle self-interest—has held an abiding fascination for philosophers and scholars of every age. Within Western thought, the Greek

philosophers (notably in Aristotle's *Ethics* and Plato's *Lysis*) are credited with advancing egoism as the central tenet of human behavior. The alternative perspective, that at least some behavior is truly altruistic, is traced to the Judeo-Christian religious tradition and its emphasis on "loving thy neighbor as thy self" (for a detailed examination of the philosophical debate and its development, see Batson 1991).

Today, there is a consensus that at least in some situations, true altruism exists. The existence of altruistic motives, as well as the distinction between the two categories of egoistic motives, is well supported by empirical studies (Batson et al. 1988; Fultz, Schuller, and Cialdini 1988; Griffin et al. 1993). The logic behind the studies is simple. When people help for egoistic reasons, helping is just a means to an end, namely, attaining rewards, avoiding punishments, or escaping personal distress. Thus, when they are provided with alternative ways to reach their goals—for example, by allowing them to escape the situation and hence the need—they will readily abandon the needy target. On the other hand, if they are altruistically motivated, they will ignore the alternatives and persist in helping until the need is met (Davis 1994). This pattern holds and provides evidence for the distinct motivational paths (for reviews, see Batson 1987, 1991; Dovidio, Allen, and Schroeder 1990).

It is possible for people to simultaneously experience several motives, some of which may even be conflicting. The opportunity to help by volunteering at a disaster site may evoke an altruistic motive to help others as well as an egoistic motive to avoid the distress caused by human anguish. If the different motivational states are compatible, there is an additive effect. If they are not, there is a drive to satisfy the stronger motivational state (Batson 1987). We next explore the specific motivations.

Egoistic motivation to gain reward and/or avoid punishments. The potential donor faced with a helping situation may form expectations regarding the rewards (or punishments) for helping (or not helping). The expectations may stem from the donor's learning history (direct and vicarious experiences), or they may be created by the organization's appeals for help. For example, a charity soliciting blood donations may invoke the rewards of helping (e.g., promising first-time donors \$25) or the punishments for not helping (e.g., suggesting that nondonors are sure to experience pangs of guilt).

Alternatively, the charitable organization could use labeling to affect donor expectations. Labeling involves giving people labels (purportedly based on their behavior) to motivate them to behave in a label-consistent fashion. Labeling is presumed to lead the person being labeled to believe he or she possesses the characteristics of the label (Kraut 1973). Thus, the label may activate expectations regarding the rewards for label-consistent behavior and the punishments for inconsistent behavior. For example, labeling people as kind, generous, or helpful elicits greater motivation to help and greater helping (Swinyard and Ray 1977) and fosters favorable attitudes toward the soliciting organization (Moore, Bearden, and Teel 1985).

Labeling is only effective when the person being labeled accepts the label (Allen 1982). As we previously discussed,

messages are more likely to be accepted when they come from credible sources. Because familiar sources have more credibility, it may appear that labeling would always be more effective for a high-profile charity than for its low-profile counterpart. However, self-perception theory (Bem 1972) suggests this may not be the case. The impact of the charity's profile or familiarity may be moderated by the donor's donation history.

People contacted for the first time may be more accepting of labels from high-profile charities than of those from low-profile charities because they view the former as more credible. Prior donors, however, may be more accepting of labels from low-profile charities, because people who have donated to low-profile charities are more likely to make internal attributions for their behavior (e.g., I must truly be generous to support a lesser-known charity). In contrast, people who have donated to high-profile charities may ascribe their behavior to the charity's familiarity (e.g., everyone gives to the Red Cross) rather than to themselves (e.g., I gave to the Red Cross because I am generous or helpful). In self-perception terms, the presence of external factors (the high-profile of the organization) may lead to the discounting of internal motivations (Scott 1978). In contrast, when the low-profile organization uses labeling with previous donors, the label should be consistent with their self-schema and therefore more effective (Tybout and Yalch 1980).

P_{4a}: Stronger motivation to help and greater helping result when potential donors are given labels congruent with helping behavior (e.g., kind, generous) than when such labels are not given.

P_{4b}: The effectiveness of a labeling strategy depends on the person's donation history. When contacting people for the first time, giving labels congruent with helping behavior is more effective for charities that are familiar or well-known than for those that are less familiar or less well-known. When contacting people who have donated previously, the opposite pattern holds.

We have suggested that egoistic motivation may be aroused by the prospect of either gaining rewards for helping or avoiding punishments for not helping. Which of these is a stronger motivator may depend on the potential donor's mood state. People in a good mood are more responsive to gaining rewards than to avoiding punishments; those in a bad mood respond better to avoiding punishments than to gaining rewards (Cunningham, Steinberg, and Greu 1980). Charitable organizations have little control over the potential donor's mood state (the mood being both transient and affected by any number of factors beyond the charity's influence). However, they can take steps to align their message to the possible mood state of donors. First, because of the demonstrated positive effects of good mood on helping behavior (Isen 1984), organizations can try to place their appeals in media contexts designed to create a good mood in their target audience (e.g., positive, upbeat forums such as Comic Relief, a popular television comedy program designed to raise funds for the homeless). Second, when presenting their appeals in such media contexts, organizations may do well to avoid punishment-oriented messages (e.g., "Think of how guilty you will feel for not helping") and in-

stead emphasize the rewards of helping. The previous discussion suggests the following:

- P₅: When contacting potential donors who are in a good mood, emphasizing the rewards for helping is more effective than emphasizing the punishments for not helping. The opposite is true when contacting potential donors who are in a bad mood.

Egoistic motivation to reduce personal distress. In some potential donors, the perception of need may cause personal distress. This in turn leads to helping,² especially when the donors perceive the beneficiary as being similar to them (Piliavin et al. 1981). Why should similarity matter to donors? One explanation proffered by economists evokes the evolutionary significance of physical similarity (Samuelson 1993; Simon 1993). Economists have traditionally viewed helping behavior as a paradox: Rational, utility-maximizing people engage in behavior that appears not to enhance their personal well-being (i.e., behavior whose costs appear to outweigh the benefits). This stream of research suggests that apparent altruism at the individual level might actually be egoism from the vantage of evolution. Specifically, helping behavior may enhance the person's, genotype's, or group's prospects for survival. Helping similar others, it is argued, may be a "selfish" way of ensuring that a person's own genetic pool is preserved, because a similar beneficiary is more likely to belong to the helper's "in-group" (group selection) or to be kin (kin selection) (Margolis 1982). Personal distress when seeing the need of a similar beneficiary may thus have evolutionary significance.

The strategy of emphasizing beneficiary similarity would be too restrictive if only physical similarity counts. However, psychological studies suggest that perceived beneficiary similarity on other, nonphysical dimensions also creates personal distress. For instance, similarity of values or attitudes may be just as powerful as physical similarity (Heider 1958). Thus, a charity may rely on shared values and attitudes to create a common bond between the helper and the beneficiary. For example, adults may give more readily to Toys for Tots than to the American Cancer Society at Christmas time if they perceive Toys for Tots as embodying a shared value that the holiday season should be especially joyful for children. In addition to beneficiary similarity, charities may also capitalize on solicitor similarity, by matching solicitors to similar potential donors (e.g., by ethnicity, language preference). Support for the positive effects of such matching comes from the literature on sales force effectiveness.

- P_{6a}: Greater personal distress and stronger motivation to help result when appeals stress the similarity of the beneficiary or solicitor to the potential donor than when they do not.

The effect of the beneficiary's or solicitor's similarity on the personal distress of the donor may be moderated by his

or her authoritarianism and belief in a just world. Compared to people with egalitarian personalities, people with authoritarian personalities have a lower tolerance for "out-groups" and opinions that conflict with theirs; therefore, seeing the need of people who are dissimilar may not be disturbing. Authoritarian people also are more likely to find people who are similar more appealing. For instance, the similarity of the beneficiary has been shown to lead to greater personal distress and therefore to more helping among potential donors with authoritarian personalities than among those with egalitarian personalities (Mitchell and Byrne 1973). Beneficiary or solicitor similarity also may be more important to people with a strong belief in a just world than to those with a weak belief in a just world. People with a strong belief in a just world believe that people get what they deserve. Hence, the need of similar beneficiaries may cause them greater personal distress, because they might expect that they too might suffer similar consequences (if similar "inputs" should lead to similar "outcomes" in a just world). Consequently, we propose,

- P_{6b}: Beneficiary or solicitor similarity causes greater personal distress among potential donors with authoritarian personalities than among those with egalitarian personalities.
- P_{6c}: Beneficiary or solicitor similarity causes greater personal distress among potential donors with a strong belief in a just world than among those with a weak belief in a just world.

Altruistic motivation. In contrast to the egoistic motives discussed earlier, donors may also experience altruistic motives, especially if they experience empathy (Davis 1994). Empathy may be defined as being aware of another person's internal states and putting oneself in the place of another to experience his or her feelings (Hoffman 1984). Not everyone experiences empathy when confronted with someone who is needy. Research suggests that a person is more likely to experience empathy when he or she has high empathic ability ("the tendency to spontaneously adopt the psychological point of view of others," Davis 1983, pp. 113–14), prior experience with the need (a recovering alcoholic may more easily empathize with another person in the same state), or emotional attachment to the cause (Hoffman 1984).

Typically, a charity has little control over these factors other than to attempt to target people with these characteristics.³ However, the charity may affect empathy through the perspective advocated in its appeals. In an effort to encourage empathy, most charitable organizations currently encourage their potential donors to imagine how they would feel if they were in the beneficiary's situation. Unfortunately, this causes potential donors to focus on their own imagined distress and thus leads to a more negative affect (Aderman, Brehm, and Katz 1974), which would depress helping behavior. Charitable organizations might find it more prof-

²Charities must be careful not to induce too much distress. If personal distress is excessive, donors may seek to escape the need situation physically (e.g., changing the television channel when an appeal involves graphic images of starvation) or psychologically (e.g., minimizing the need by rationalizing that it is exaggerated to win sympathy).

³Some evidence suggests that charities might affect the emotional attachment of potential donors by using strong emotional advertisements (Bagozzi and Moore 1994). Although this is promising, more research is needed regarding the effectiveness of this strategy. Appeals that are too strong may lead to negative emotional responses of distress, fear, and denial, thus reducing empathy and consequently helping (Stayman and Aaker 1988).

itable to instruct potential donors to imagine how the beneficiary would feel in the given situation. This has been shown to lead to a more positive effect (Davis et al. 1987), which should enhance the help rendered. The previous discussion suggests the following:

- P₇: Greater empathy, and hence greater altruistic motivation, is created when the appeal for help asks donors to imagine how the *beneficiary* must be feeling than when the appeal asks donors to imagine how they would feel if they were in the beneficiary's place.

Step Three: Behavior

Following the motivation to help, the potential donor engages in the chosen behavior by complying or not complying with the request for help. If the donor complies with the help request, the help may range from token helping (making a nominal contribution) to serious helping (making a substantial contribution). The degree of help (none, token, serious) depends on a cost-benefit analysis. The benefits of a course of action may include attaining self- or social rewards, avoiding self- or social punishments, avoiding personal distress, or enhancing the other's welfare. These benefits may accrue from the end result (feeling good about volunteering for a good cause) as well as from the instrumental behavior (volunteering may be a good opportunity for social interaction). The costs involved may be financial (dollars contributed), physical (effort involved in volunteering), psychological (trauma associated with working with a terminally ill person), or social (significant others may disapprove of the cause). Costs also involve the opportunity costs of unchosen alternatives (dollars or time contributed to charities are resources that cannot be spent on other activities). Again, as with benefits, costs may accrue from the end result (personal time set back by total hours volunteered) and instrumental behaviors (having to work in undesirable surroundings such as in an inner-city neighborhood).

Commitment to behavioral alternatives: Egoistic motivation. Research suggests that whether the potential donor commits to helping or not helping depends on the perceived cost-benefit trade-off. The charity may affect this trade-off through the use of social comparisons (conveying that others have helped) and strategic altruism (conveying that helping is good strategy).

Sociological literature suggests that helping behavior may be enhanced by stressing that it is the norm (Gouldner 1960) through the use of social comparisons. Because normative behavior is reinforced by society, knowledge that others are behaving in a specific fashion should create pressure on a person to do so also. Specifically, people may reason, "If everyone is doing it, it must be a sensible thing to do" (Cialdini, Reno, and Kallgren 1990). Reingen (1982) demonstrates that providing a fictitious list of donors and donations resulted in higher compliance rates and higher average donations: The longer the list, the greater the donations. Having a neighbor solicit blood donations (activating normative behavior) was also shown to increase compliance (Independent Sector 1994; LaTour and Manrai 1989). Similar findings are reported for reducing littering in public places (Cialdini, Reno, and Kullgren 1990). Consequently,

- P_{8a}: Greater helping behavior results when normative or social comparison appeals are used than when such appeals are not used.

Through social comparisons, charities may be providing donors with potential models for them to emulate. Studies show that people help more when they are exposed to role models who help (Wilson and Petruska 1984), presumably because the model provides information about the social norms for and the consequences of helping (Krebs and Miller 1985). Providing models through normative or social comparison appeals may be particularly effective in situations that are fraught with social confusion or ambiguity (Festinger 1954; Schachter 1959). When the behavior is widely established and well understood or when its costs and benefits are clear, there is no social ambiguity—a person need not rely on others for information on the appropriate conduct. When the behavior is rare or its consequences are not well understood, the situation is socially ambiguous, and people look for social cues to guide their behavior. Thus, social comparison appeals may be more effective in increasing behavior that is scarce (e.g., bone marrow donations among blacks and minorities) or about which misperceptions exist (e.g., that a person can contract AIDS by donating blood) than in increasing behaviors that are well established or whose consequences are well understood (e.g., being a bell-ringer for the Salvation Army). Hence, we propose,

- P_{8b}: The effectiveness of normative or social comparison appeals depend on the social ambiguity of the requested helping behavior. The appeals are more effective in increasing help when the behavior is not common in the donor's community or when there are misperceptions about it than when the behavior is common and the consequences are well understood.

As we previously discussed, charities may suggest that cost-benefit trade-offs must favor helping because significant others are engaging in helping behavior. Alternatively, they could suggest that helping is a sound strategy, thereby invoking strategic altruism. The economic literature on strategic altruism addresses the Samaritan's dilemma: how to help without perpetuating dependence and selfish behavior in the recipient (Becker 1981; Bruce and Waldman 1990, 1991). Using the metaphor of the parent-child relationship, it examines when and how a parent should help a potentially rotten child.⁴ Knowing that the parent will come to his or her aid, the rotten child may have no incentive to behave responsibly. In response, potential helpers focus on carefully choosing whom, when, and how they help and monitor the impact of the help on the recipients.

Strategic altruism suggests that choice enables donors to optimize their resource allocation and should lead to greater helping (Bruce and Waldman 1991). Thus, charities can enhance helping by giving potential donors greater choice in specifying the beneficiaries, type, and timing of help. This

⁴The metaphor extends to transfers of wealth in other relationships, such as from a government (through welfare programs) or private citizens (e.g., through charitable contributions) to needy recipients.

beneficial effect of choice is validated by two other sources. Studies of blood donation patterns show that providing choice in a relatively trivial matter such as what arm from which to draw blood leads to greater perceived benefits and lower perceived costs to the donor (Mills and Krantz 1979). Research on the effects of perceived choice in other, non-helping contexts also suggests that choice leads to positive psychological and behavioral outcomes (Hui and Bateson 1991).

Charities can improve perceived choice by providing greater options to donors. For example, some charities allow donors to specify the age, sex, and geographic region of the intended beneficiary (e.g., Children's Christian Fund allows donors to sponsor a child with a specific profile). This practice runs the risk of leaving less appealing beneficiaries underfunded. Charities in this situation may still provide choice in the timing of donations (e.g., lump sum versus quarterly) as well as in the type of donations (e.g., time, money). Consequently, we propose,

P₉: Greater helping results when charities allow donors to practice strategic altruism by providing donors with choices regarding whom, when, and how they help than when such choices are not provided.

To help, donors must believe in their self-efficacy, which is the conviction that a person can successfully execute a behavior to produce a desired outcome (Bandura 1983). Self-efficacy has been linked to people's willingness to undertake a wide range of behaviors (Shelton 1990). People who lack self-efficacy regarding a behavior doubt that they can perform it, view it with anxiety, imagine negative consequences, and avoid the behavior. How do people develop notions of self-efficacy? It may stem from direct or vicarious experiences (performing the behavior or watching others perform it) or from persuasion (exposure to information that a person can or cannot perform a behavior) (Maddux and Stanley 1986).

Charities may thus enhance donors' self-efficacy through their appeals for help. This may be done in the presentation of the size of need and requested help or by emphasizing that significant (i.e., highly esteemed) others are helping. When the need appears enormous, donors may believe that they are powerless to reduce it; this lack of self-efficacy may lead to their choosing not to help at all. To counter this trend, the charity may focus on a manageable segment of the need (e.g., helping one needy child as opposed to the starving millions), assuring donors it possesses the ability to provide serious help. Or, donors may believe that effective help requires contributions beyond their means. In this case, the charity may adjust the size of the requested help to emphasize that even a small donation is effective and appreciated. Alternatively, they may emphasize that significant others are helping. As we discussed previously, social comparisons can provide information on appropriate behavior. Such models of helping may also help donors develop vicarious expectancies of self-efficacy (e.g., If my neighbor can help, I can, too). Consequently, we propose,

P₁₀: Greater helping behavior results when charities persuade donors of their self-efficacy in helping than when they do not.

Commitment to behavioral alternatives: Altruistic motivation. The process by which the potential donor commits to behavioral alternatives under altruistic motivation is largely the same as in egoistic motivation. (We subsequently note a few differences.) For an altruistically motivated person, the magnitude of altruistic emotion (and the benefit of satisfying it) is proportional to the magnitude of the perceived need. Therefore, we expect that appeals emphasizing the need of the recipient should generate the most helping from these donors. Altruistically motivated donors also are presumably more focused on the need of the other, and hence they might be less sensitive to other factors (e.g., their own resources, their mood states, social comparisons) in evaluating alternatives than are their egoistically motivated counterparts (Batson et al. 1988).

It also appears that people motivated by altruistic concerns are more likely to provide serious help than token help (Clary and Orenstein 1991). Studies have demonstrated that egoistically motivated people view help as a means to an end. When given alternative ways to reach that end (e.g., gaining recognition for merely trying to help as opposed to helping effectively), egoistically motivated people, trying to gain the most benefits for the least costs, may choose token helping (Davis 1994). In contrast, altruistically motivated people are driven by the other's need. Consequently, they may either help or not help, depending on the cost-benefit trade-offs. They should be less likely to engage in self-serving token helping behavior because they recognize its futility in alleviating need (Batson 1987).

Step 4: Consequences

As is depicted in Figure 1, the consequences of helping behavior are far-reaching, affecting the beneficiary, charity, donor, and community. We focus on the consequences of helping behavior and the likelihood of subsequent help. Repeated help has not received adequate attention, primarily because few longitudinal studies have been conducted on this segment (Piliavin and Callero 1990); indeed, this area of research has been termed *speculative* (Burnett and Wood 1988). Thus, we do not offer propositions for this section but instead briefly discuss promising research streams.

Compliers. People who have helped in the past, or *compliers*, may continue to help, thereby becoming *repeat donors*, or they may refuse to help again, thereby becoming *lapsed donors*. A critical issue for charities in creating repeat donors is how much to ask for in the next help request. One strategy is to make escalating requests, that is, follow a small request that is honored with a later, larger request for help: This approach is termed *foot-in-the-door* (Freedman and Fraser 1966). Foot-in-the-door is presumed to work, because people who have complied with a small, initial request are expected to attribute their initial compliance to a distinctive favorable disposition to the cause or charity (I must have helped because I truly believe in the cause). When such attribution occurs, people feel pressured to continue to help

in order to appear consistent. If people are able to find other, external reasons for their compliance, the act loses its distinctiveness and there is no pressure to continue helping (Zuckerman, Lazzano, and Waldgeir 1979).

Hence, foot-in-the-door may not be equally effective for all charities. When people help a high-profile charity, compliance may lose its distinctiveness, with donors reasoning, for example, that anybody would help the Salvation Army—it is such a well-known organization. On the other hand, when people help a low-profile charity, they are more likely to view the initial help as distinctive and hence feel pressured to continue to help.⁵ The strategy of escalating requests thus may be more effective for low-profile charities.

Recovering lapsed donors poses formidable challenges (Squires 1992). Having once helped, why do some donors lapse? Charities may find the insights from behavior modification particularly applicable here (Luthans and Kreitner 1985); namely, people's behavior is strengthened, maintained, weakened, or modified by its consequences. That is, people persist in behavior that is rewarded or has positive consequences and desist from behavior that is punished or has negative consequences. When donors lapse, perhaps helping is no longer rewarding to them, and the charity may do well to probe why. It is possible that the donor believes the help situation no longer meets his or her needs. For example, a student who volunteers in order to gain a resume item may have no incentive to continue once that goal is met. The charity may then focus on a different set of needs that helping can satisfy. Such follow-up is costly, and organizations may wish to tailor the level of recovery effort to the likelihood of recovery and the payoffs of recovery, using such factors as number of years lapsed and the status at the time of lapse (e.g., level of giving, annual versus multiple gifts per year) (Kuhn 1989).

Noncompliers. People who have denied an initial request for help, or *noncompliers*, may continue to refuse to help, thereby becoming *hard-core nondonors*, or they may accede to a later request for help, thereby becoming *converted to donors*. In attempting to convert nondonors to donors, charities may find guidance in the research on the *door-in-the-face* technique (Cialdini et al. 1975), which focuses on the effect of noncompliance on later requests for help. In this procedure, a subject is asked to comply with a large, initial request for help. Following the subject's refusal, a smaller, critical request for help is made. It is proposed that the person who turns down the larger request for help views the second, smaller request as a concession on the part of the solicitor. Norms of reciprocity (Gouldner 1960) are then expected to prevail, with the subject reasoning that a similar reciprocal concession is in order and then acceding to the smaller request for help. The success of the technique depends on the person's perceiving a concession on the part of the solicitor and feeling obligated to reciprocate. Again, the perception of the charity may dictate whether this is an effective strategy. For the potential donor

to feel obliged to reciprocate, it is important that he or she view the soliciting charity as powerful or high-profile, because a concession is only viewed as magnanimous if made by a powerful bargainer; in a weak counterpart, it is viewed as a retreat. Hence, the donor may experience a greater obligation to reciprocate a concession by a high-profile charity (the Red Cross) than a low-profile one (Inter Faith Hunger Appeal).

An important issue in tracking donors is whether they have switched from one form of helping to another (a donor who volunteers time may be in a time crunch and choose to donate money instead) or from one cause to another. Some evidence suggests that helpers are consistent: They may move from one activity to another but they continue the general pattern of helping (American Association of Fund-Raising Counsel 1994). If this is true, identifying helping-prone customers may be an effective strategy for charitable organizations (Danko and Stanley 1986).

Discussion

Trends indicate that the already significant demand for charities' services will increase in the years to come (Independent Sector 1994). To meet these growing needs, charities may need to devise effective promotional strategies to elicit greater help from donors. Literatures in which helping has been studied (e.g., economics, sociology, social psychology) are too fragmented by disciplinary boundaries to be of much value in this task (Schlegelmilch, Diamantopoulos, and Love 1992). Consequently, we attempt to advance theoretical understanding of such underresearched issues as what factors affect helping behavior, why people help charitable causes, and what promotional strategies are most likely to enhance helping.

To understand the factors that affect helping, we present a conceptual framework of helping behavior, including its antecedents, moderators, and consequences, in Figure 1. This framework is useful in synthesizing insights from different disciplines. Consider the focus of two fields of study: Marketing research in the area has focused primarily on narrow aspects of the charity's solicitation, such as the size of the request for help. In contrast, social psychological literature has emphasized donor characteristics—especially different motivations—and their effects on helping behavior; because of the focus on a person directly helping a needy recipient, the influence of an intermediary charity is not investigated. By integrating the insights from these (and other) disciplines, the framework enables theorizing to move beyond the prediction of main effects (either charity or donor variables) to the richer investigation of the interaction effects of the charity and donor variables on helping behavior. However, significant gaps remain in our understanding of other aspects of the framework. For example, little is known about the role of macroenvironmental variables (nondonor moderators such as the state of the economy and government policy) in shaping helping behavior. The consequences of helping behavior are also virtually unexplored and must be examined in longitudinal studies.

To understand why people help charities, we examine the donor's decision process (see Figure 2) and how chari-

⁵The attributions people make are only one reason for their helping low-profile charities. Another may be that they believe their help will make a greater difference in these obscure charities than in high-profile ones.

ties' promotional strategies can positively influence it to enhance helping, and we develop propositions regarding the impact of these promotional strategies. Consider, for instance, the initial step of perception of need. The propositions suggest that the image of the charity, cause of the need, and the portrayal of the beneficiary may determine whether donors even perceive that the need exists. This conceptualization has significant practical and theoretical implications. From a practical standpoint, raising donations for causes such as drug rehabilitation or treatment of sexually transmitted diseases may pose a formidable challenge if people believe the situation is caused by or is under the volition of its victims. Stressing that the causes are at least partially outside the victims' control should help enhance perception of need and helping behavior. These theoretical insights into beneficiary portrayal must be extended to charities that deal with multiple beneficiaries.

We have focused on how charities portray a single beneficiary or a segment of beneficiaries. Some organizations follow this approach, clearly aligning themselves with a specific segment (e.g., Save the Children foundation). Other organizations benefit a variety of recipients and causes (e.g., the United Way). Clearly, these multiple constituencies vary in the extent to which they are perceived as "causing" their own need. It is possible that in such instances, donors are helping the charitable organization and not a specific beneficiary. Further research must empirically verify the implications of beneficiary portrayal for an organization that has multiple beneficiaries.

Heeding earlier calls for attention to the diverse motivations that may underlie helping behavior, we examine the different motivational paths to helping and the factors that guide the helping decision on each path. The presence of distinct motivational paths has received considerable research support in the social psychological, sociological, and economic literature. Marketing, however, has hitherto relied only on anecdotal evidence regarding the different motivations behind donations to charitable organizations (Sharpe 1987). By formalizing the motivational routes—to gain rewards or avoid punishments, to reduce personal distress, to alleviate the other's need—we enrich current understanding of the helping decision process. This understanding also can help charities recruit and sustain donors by aiding in pairing potential donors with appropriate helping opportunities. Charitable organizations (e.g., Big Brothers/Big Sisters of America, hospitals) routinely screen volunteers before accepting their help. If a volunteer is identified as motivated by social rewards (e.g., praise, recognition), the organization may be better off placing the volunteer in a high-visibility position (e.g., as a receptionist) than in a low-visibility position (Omoto and Snyder 1989).

The process map also reflects our conceptualization of different degrees of helping behavior (no help, token help, serious help), instead of a dichotomy of helping or not help-

ing. Current research enables us to offer propositions regarding the conditions under which helping behavior (either token or serious help versus no help) is more likely. However, there remains a significant gap in the understanding of the conditions under which token versus serious help is rendered. For example, we have posited that social comparisons result in a greater likelihood of helping. Would people responding to such appeals (e.g., everyone is helping) try to make token contributions so that they can reap the benefits of helping at minimal cost?

Another area that must be addressed is the consequences of helping. Because of the lack of adequate research in this area, we have not offered propositions regarding the effects of initial helping behavior; however, we have identified several potentially useful research streams to guide theorizing in this area. Current marketing literature ignores the differences between charitable organizations (e.g., a familiar, well-known versus a less familiar, less well-known organization), recommending universal strategies for all organizations. We advocate recognizing these differences and adapting the solicitation strategies accordingly. Consider, for example, the choice between foot-in-the-door and door-in-the-face solicitation techniques. Our discussion suggests that foot-in-the-door may be more effective for less familiar organizations, whereas door-in-the-face may be better for more familiar organizations.

Most of the propositions presented require a knowledge of the donors' persistent and momentary characteristics; however, there is no syndicated information on these dimensions. Charities may avoid this problem in two ways. First, for mass-media appeals, they may try to establish the demographic correlates of constructs such as belief in a just world (Witt 1989) and match these to audience profiles. Second, charities maintain some profiles on regular or new donors; these may be extended and refined to include information about the donor's motivations for helping and expectations regarding the consequences. Customizing the helping situation in this fashion may help charitable organizations practice relationship marketing (McCort 1993). Relationship marketing, with its focus on maintaining long-term relationships, may provide valuable guidelines to charities hoping to sustain reliable donor bases.

In studying helping behavior, marketers would be entering a new and challenging area (Goldberg 1994). Despite the challenges, however, the study of the help rendered to charitable organizations will have significant payoffs on several fronts. Charitable organizations are often the front line of defense against the myriad, growing problems of today's society—drugs, violence, AIDS, homelessness, and hopelessness, to name a few. By buttressing the efforts of charitable organizations, marketers may make the world a healthier and happier place (Andreasen 1993), not a mean accomplishment for any discipline or its practitioners.

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Marketing in Hypermedia Computer-Mediated Environments: Conceptual Foundations

The authors address the role of marketing in hypermedia computer-mediated environments (CMEs). Their approach considers hypermedia CMEs to be large-scale (i.e., national or global) networked environments, of which the World Wide Web on the Internet is the first and current global implementation. They introduce marketers to this revolutionary new medium, propose a structural model of consumer navigation behavior in a CME that incorporates the notion of flow, and examine a series of research issues and marketing implications that follow from the model.

Firms communicate with their customers through various media. Traditionally, these media follow a passive one-to-many communication model, whereby a firm reaches many current and potential customers, segmented or not, through marketing efforts that allow only limited forms of feedback from the customer. For several years, a revolution has been developing that is dramatically altering this traditional view of advertising and communication media. This revolution is the Internet, the massive global network of interconnected packet-switched computer networks, which as a new marketing medium has the potential to radically change the way firms do business with their customers.

The Internet operationalizes a model of distributed computing that facilitates interactive multimedia many-to-many communication (for a complete history, see Hafner and Lyon 1996). As such, the Internet supports discussion groups (e.g., USENET news, moderated and unmoderated mailing lists), multiplayer games and communication systems (e.g., MUDs [Multiuser Dungeons], IRC [Internet Relay Chat], chat, MUSEs [Multiuser Shared Environment]), file transfer, electronic mail, and global information access and retrieval systems (e.g.,archie, gopher, World

Wide Web).¹ The business implications of this model, in which "the engine of democratization sitting on so many desktops is already out of control, is already creating new players in a new game" (Carroll 1994, p. 73), will be played out in as yet unknown ways for many years to come.

We focus on the marketing implications of commercializing hypermedia computer-mediated environments (CMEs), of which the World Wide Web (Berners-Lee et al. 1993) on the Internet is the first and current networked global implementation. Although we provide a formal definition of a hypermedia CME subsequently, at this point we informally define it as a distributed computer network used to access and provide hypermedia content (i.e., multimedia content connected across the network with hypertext links). Although other CMEs are relevant to marketers, including private bulletin board systems; conferencing systems such as The WELL (Rheingold 1992); and commercial on-line services such as America Online, CompuServe, Prodigy, and the Microsoft Network, we restrict our focus to marketing activities in hypermedia CMEs accessible via the Web on the Internet.

From a commercial perspective, the Web consists of locations, or sites, that firms erect on servers and consumers

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¹For a discussion of the technical terms used in this paper, consult one of the many reference books on the Internet (e.g., December and Randall 1995). A comprehensive listing of books about the Internet can be found at <http://www.switch.ch/switch/Internet-Books.txt>. The http address is a Uniform Resource Locator (URL) that specifies the exact location of a document on the Internet. Note that URLs are used in the Reference list to indicate where on-line versions of documents can be identified. Although these URLs were accurate at the time this article was written, it is possible that over time, some of these URLs may have changed or no longer exist.

visit. On the Web, consumer-oriented network navigation consists of visiting a series of *Web sites* to search for information and/or advertising about products and services or consumer content (possibly advertiser-supported) or place an order for a product.

Consumers visit a site by directly entering its Web address in the browser or clicking on a hypertext link leading to it from some other site. Once there, consumers navigate through the site using a series of point-and-click motions with a mouse or entering textual information into pop-up windows and "fill-out forms" with keyboard strokes. From there, the consumer chooses where to go next in the site. Often, the offerings are presented as a nonlinear graphical menu or map of choices to the consumer. The navigation process continues, terminated only when the consumer jumps to another off-site hypertext link within the Web or exits the Web navigation experience entirely.

The Internet is an important focus for marketers for several reasons. First, consumers and firms are conducting a substantial and rapidly increasing amount of business on the Internet.² Although there is some controversy surrounding the estimates of the size of the Internet, surveys performed to date by O'Reilly, FIND/SVP, Times Mirror, and Hoffman, Kalsbeek, and Novak (1996) suggest that there are at least 10 million Internet users in the United States alone. The number of computers (hosts) connected to the Internet topped 9.47 million (Network Wizards 1996) as of January 1996 and has been doubling every year since 1982. Note that a single host supports anywhere from a single user to, in some cases, thousands of users. As of March 21, 1996, Open Market's (1996) directory of "Commercial Services on the Net" listed 24,347 firms, and there were 54,800 entries in the "Companies" directory of Yahoo's (1996) guide to the Web, with the total number of Web sites doubling approximately every two months.

Second, as Malone (1995) has argued, the market prefers the decentralized, many-to-many Web for electronic commerce to the centralized, closed-access environments

²The most recent figures decision makers are using for business planning and research purposes are that the total core economy for electronic commerce on the Internet will approach \$45.8 billion by the year 2000 (Modahl 1995), including \$14.2 billion for infrastructure, \$2.8 billion for consumer content, \$6.9 billion for business content, and \$21.9 billion in on-line trade (made up of \$6.9 billion in retail and \$15 billion in EDI). Additionally, Modahl (1995) forecasts that \$46.2 billion in consumer assets will be managed over the Internet by the year 2000, broken down as \$29.9 billion in mutual funds and \$16.3 billion in deposits. However, analysts at Hambrecht and Quist (1995, www.hambrecht.com) estimate a much larger Internet economy of \$73 billion by the year 2000, comprised of \$13 billion in infrastructure, \$10 billion in content, and \$50 billion in transactions. On the other hand, Alex, Brown and Sons (Clark 1995) forecast a much smaller Internet economy, reaching somewhere between \$13.5 billion and \$16 billion by 1998, composed of a \$6 billion infrastructure, \$5 billion to \$7 billion in communication access, and \$2.5 billion in content. Currently, the total Internet economy is estimated at \$2 billion (Modahl 1995). Additionally, the market for the largely digital electronic convergence of content systems, publishing, and so on is already estimated at over \$1 trillion (Oliver 1995). None of these forecasts include efficiency savings from moving processes and transactions on-line.

provided by the on-line services. Significantly, all the major on-line services now offer Web access to their subscribers and have or are expected to announce plans to allow members to self-publish their own *home pages* on the Web, as well. Additionally, virtually all the major communications conglomerates have Web sites, as they shift their strategic orientations away from so-called interactive television applications to Web-based publishing, communication, and multimedia marketing efforts.

Third, and this follows from the first and second points, the World Wide Web represents the broader context within which other hypermedia CMEs exist. Indeed, much of the foundation we develop here is relevant to on-line services, particularly as they begin to function more as full-service Internet access providers and less as closed, proprietary networks. Thus, restricted on-line services are special cases of the open-access World Wide Web. Open access results in lower entry barriers so that virtually anyone can both access and provide content to the Internet. In essence, the Web "levels the playing field."

Both the Web and proprietary on-line services are examples of developments in *electronic commerce*, which, as Rangaswamy and Wind (1994) have noted, include such developments as EDI (electronic data interchange), kiosks, electronic classified advertisements, and on-line services such as CompuServe and Minitel, the French videotex system (Cats-Baril and Jelassi 1994). With the possible exception of EDI, which is moving to the Internet because its "open architecture" system is more inclusive and offers numerous advantages over private networks, none of these mechanisms for facilitating commerce electronically has the same far-reaching scope and potential for transformation of the business function as does the World Wide Web.

Fourth, the Web provides an efficient channel for advertising, marketing, and even direct distribution of certain goods and information services. For example, Verity and Hof (1994) suggest that it may be nearly one-fourth less costly to perform direct marketing through the Internet than through conventional channels. Neece (1995) reports that SunSolve Online™ has saved Sun Microsystems over \$4 million in "FAQs"³ alone since Sun "reengineered information processes around the WWW [Web]." A recent study by IBM Corporation (1995) suggests that on-line catalogs on the Internet can save firms up to 25% in processing costs and reduce cycle time by up to 62%. Along with the suspected increases in efficiency, the anecdotal evidence mounts that marketing on the net also may be more effective than marketing through traditional media. For example, one vendor estimated that his marketing efforts on the Web resulted in "10 times as many units [sold] with 1/10 the advertising budget" (Potter 1994).

Goals and Organization of the Paper

Although there have been recent scholarly efforts detailing the impact of new information technologies on marketing

³A FAQ is a frequently asked question to which standardized replies are both readily available and desirable.

(e.g., Blattberg, Glazer, and Little 1994; Glazer 1991), the existing research does not discuss the impact that hypermedia CMEs such as the World Wide Web have on marketing theory and business practice. Despite the massive amount of attention given to the Internet in the popular press (see, e.g., the more than 6000 references to the Internet in *ABI Inform* through November 1995) and the belief in many business circles that the Web represents a phenomenal marketing opportunity, virtually no scholarly effort has been undertaken by marketing academics to understand hypermedia CMEs, both as media for marketing communications and as markets in and of themselves. We draw from the relevant literatures in psychology, communications, media studies, organizational behavior, and human-computer interaction, and concentrate our efforts on developing a conceptual foundation for understanding consumer behavior in hypermedia CMEs.

Therefore, our goals are to introduce marketers to this revolutionary new medium, propose a preliminary process model of consumer navigation behavior in a hypermedia CME, examine the research issues that correspond to the process model, and derive marketing implications for electronic commerce all to stimulate critical inquiry in this emerging area. To that end, the article is organized as follows: We discuss three models of communication that underlie traditional and new media and develop a media typology that reveals new insight into the distinctions among traditional media and CMEs. Then, using an expanded concept of flow (Csikszentmihalyi 1977, 1990), we introduce a preliminary process model of network navigation in CMEs. We next present a series of 15 research issues involving the flow construct and process model, while paying attention to the marketing implications that follow from the research issues. Finally, we offer conclusions about the importance of this emerging area of inquiry to both marketing scholars and practitioners interested in electronic commerce.

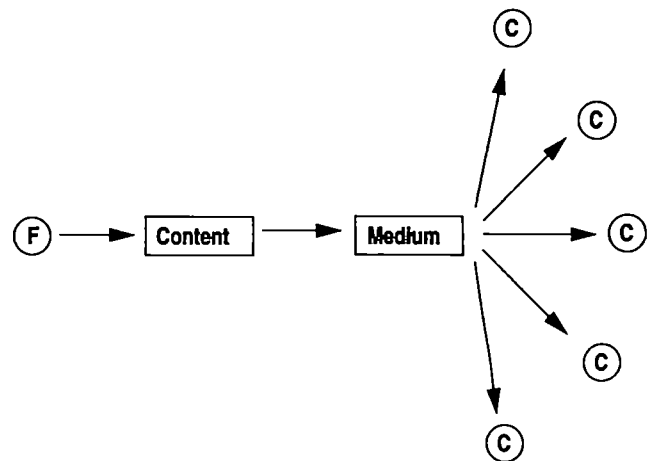
Hypermedia Computer-Mediated Environments

We begin by outlining a series of three communication models that serve to identify several unique characteristics of hypermedia CMEs such as the Web. We then describe a new media typology that positions the Web in the broader context of new and traditional media and discuss the marketing implications of the communication models and typology.

Communication Models

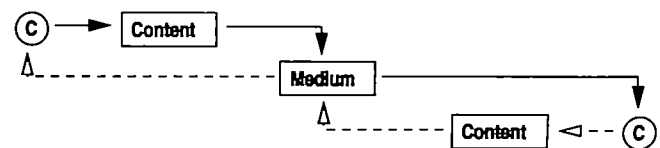
Model 1: Mass media. In Figure 1, we present a simplified model that underlies many models of mass communication (e.g., Katz and Lazarsfeld 1955; Lasswell 1948). The primary feature of Figure 1 is a one-to-many communications process, whereby the firm (F) transmits content through a medium to consumers (C). Depending on the medium (i.e., broadcast, print, and billboards), either static (i.e., text, image, and graphics) and/or dynamic (i.e., audio, full-motion video, and animation) content can be incorporated. No interaction between consumers and firms is present in this model. Virtually all contemporary models of

FIGURE 1
Traditional One-To-Many Marketing Communications Model for Mass Media



Note: F = firm; C = consumer.

FIGURE 2
Model of Interpersonal and Computer-Mediated Communication



Note: C = consumer.

mass media effects are based on this traditional model of the communication process (e.g., see Kotler 1994, Chapter 22).

Model 2: Interpersonal and computer-mediated communications. In Figure 2, we present a simplified model of interpersonal communication that is based on traditional models of communication from sender to receiver. The solid and dashed lines indicate communication flows through a medium for two distinct persons. This model incorporates a feedback view of interactivity, which is consistent with Rafaeli's (1988, p. 111) definition of interaction as "an expression of the extent that in a given series of communication exchanges, any third (or later) transmission (or message) is related to the degree to which previous exchanges referred to even earlier transmissions." Although Figure 2 is shown here for one-to-one communication between two consumers, the model can be easily extended to represent many-to-many interpersonal communication (i.e., teleconference, face-to-face group meetings, or on-line chat rooms). Note that unmediated face-to-face interpersonal communication is a special case of Figure 2. From a marketing perspective, the model in Figure 2 is implicit in developments of word-of-mouth communication models.

Person-interactivity, the key feature distinguishing Figure 2 from Figure 1, is defined as interactivity between peo-

ple that occurs through a medium or is unmediated, as in the case of face-to-face communication. In this view of interactivity, media are “important only as a conduit, as a means of connecting sender and receiver, and are only interesting to the extent that they contribute to or otherwise interfere with the transmission of messages from sender to receiver” (Steuer 1992, p. 77–78).

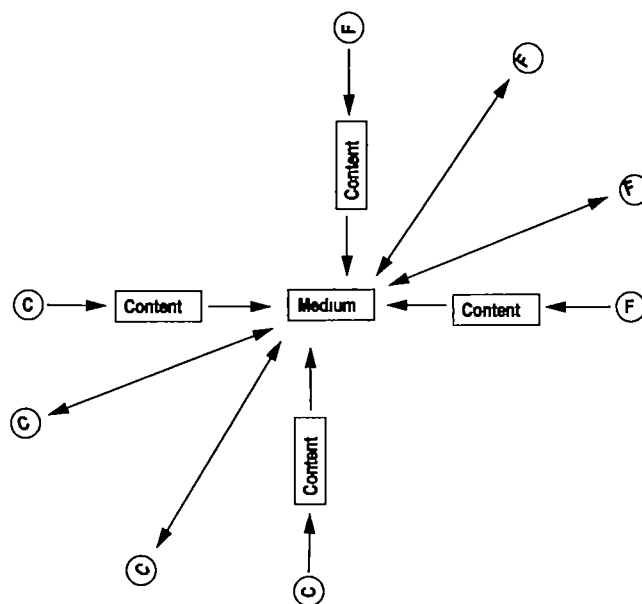
Hypermedia CMEs. Nearly 50 years ago, Busch (1945, p. 106) proposed a hypertext-like system called *Memex*, which would consist of “a device in which an individual stores all his books, records, and communications, and which is mechanized so that it may be consulted with exceeding speed and flexibility.” Nelson (1967) discussed hypertext in terms of a network of paths and associations, with an emphasis on approximating the way the human brain connects information. Bornman and von Solms (1993, p. 260) provide a current definition: “*Hypertext* suggests the concept of non-sequential writing of information that allows the user to connect information together by means of different paths or links.” *Multimedia* uses a computer to integrate and provide interactive access to both static (i.e., text, image, and graphics) and dynamic (i.e., audio, full-motion video, and animation) content, whereas hypermedia combines the node-and-link access of hypertext with multimedia content. Gygi (1990) and Smith and Wilson (1993) provide more extensive discussion of hypertext and hypermedia.

We define a *hypermedia CME* as a dynamic distributed network, potentially global in scope, together with associated hardware and software for accessing the network, which enables consumers and firms to (1) provide and interactively access hypermedia content (i.e., “machine interactivity”) and (2) communicate through the medium (i.e., “person interactivity”). We further define *network navigation* as the process of self-directed movement through a hypermedia CME. This nonlinear search and retrieval process provides essentially unlimited freedom of choice and greater control for the consumer and may be contrasted with the restrictive navigation options available in traditional media such as television or print. Furthermore, network navigation permits much greater freedom of choice than the centrally controlled interactive multimedia systems, such as video-on-demand and home-shopping applications of so-called Interactive Television; the text-based French Minitel system (Cats-Baril and Jelassi 1994); the menu-based information-acceleration approach of Hauser, Urban, and Weinberg (1993); or the experimental systems for monitoring information processing, such as Mouselab (e.g., Payne, Bettman, and Johnson 1993).

Model 3: A new model for hypermedia CMEs. In Figure 3, we present a many-to-many communication model for hypermedia CMEs. The content in Figure 3 is hypermedia, and the medium is a distributed computer network. Figure 3 differs from Figure 2 in that interactivity can also be *with* the medium (i.e., machine interactivity) in addition to *through* the medium (i.e., person interactivity).

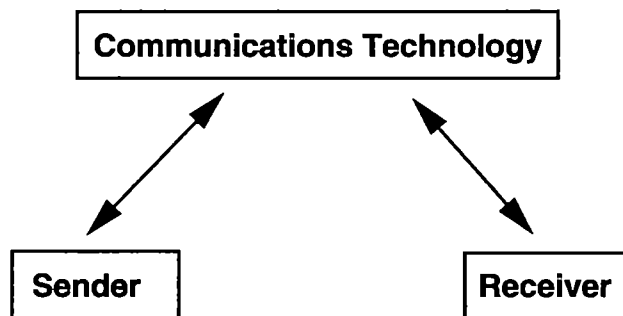
Figure 3 is based on a communication model outlined by Steuer (1992) and shown in Figure 4. The mediated model

FIGURE 3
A Model of Marketing Communications In a Hypermedia CME



Note: F = firm; C = consumer.

FIGURE 4
Mediated Communication



Note: Adapted from Steuer (1992).

represented in Figure 4 suggests that the primary relationship is not between the sender and the receiver, but rather with the mediated environment with which they interact. According to this view, information or content is not merely transmitted from a sender to a receiver; instead, “mediated environments are created and then experienced” (Steuer 1992, p. 78). In Steuer’s model of mediated communication, *machine interactivity* is “the extent to which users can participate in modifying the form and content of a mediated environment in real time” (p. 84). Steuer calls his model a *telepresence view* of mediated communication, where *presence* is defined as “the natural perception of an environment” and *telepresence* is defined as “the mediated perception of an environment” (p. 76). Following Steuer, when in-

teracting with a computer-mediated environment, the consumer perceives two environments: (1) the physical environment in which he or she is present and (2) the environment defined by the hypermedia CME. The strength of the experience of telepresence is a function of the extent to which a person feels present in the hypermedia CME, rather than in his or her immediate physical environment.

In Figure 3, we show the range of communication relationships possible in a hypermedia CME. Consumers can interact with the medium (e.g., "surf the Web" using browsing software) as can firms (e.g., business-to-business marketing in CommerceNet). In addition, firms can provide content to the medium (e.g., a firm establishes a corporate Web server). Finally—in perhaps the most radical departure from traditional marketing environments—consumers can put product-related content in the medium. For example, individual consumers have established Web pages for automobiles (e.g., the Ford Probe, Porsche, car audio equipment, and solar cars), toys (e.g., Legos and Barbie Dolls), and television shows (e.g., Friends, The X-Files, Married With Children, and Rugrats). Furthermore, note that Figures 1 and 2 are contained within Figure 3. Thus, a hypermedia CME also can be used for computer-mediated communication among consumers and/or firms (*through* the medium, or person interactivity), as well as potentially for one-to-many mass communication, though applications of the latter have met with considerable consumer resistance (e.g., Godwin 1994).

Media Characteristics

Studying media characteristics provides a structured context for comparing different media types, including traditional media and new media (Valacich et al. 1993; Williams, Storer, and Grant 1994). Traditional media include both mass media (e.g., television, radio, newspaper, magazines, direct mail), and personal communications (e.g., word of mouth). New media encompass interactive media, such as videotex, interactive CD-ROM, on-line services, and hypermedia CMEs, as well as emerging so-called interactive multimedia, such as pay-per-view, video-on-demand, and interactive television.

The media typologies referenced in Table 1 reveal that media differ along many different dimensions, for example, channel characteristics (Reardon and Rogers 1988; Rogers 1986), social presence (Rice 1992, 1993), and uses and gratifications (Perse and Courtright 1993). However, hypermedia CMEs were not in existence at the time these typologies were proposed. Although the typologies cited include the computer as a communications medium, it is defined narrowly in terms of email, bulletin boards, and computer conferencing.

Furthermore, many of the characteristics listed in Table 1 are either subjective in nature or require the application of valid measurement procedures. Therefore, we propose a new media typology based on seven objective characteristics. Although objective characteristics do not allow the media to be compared with respect to such psychological dimensions as communication needs, social presence, or control, they do permit a relatively error-free classification. Thus, in Table 2 re, we characterize 35 traditional and new media with respect to seven objective characteristics. We

have already discussed person-interactivity and machine-interactivity and the distinction between one-to-many and one-to-few (Figure 1), one-to-one and few-to-few (Figure 2), and many-to-many (Figure 3) communication models. Content simply identifies whether static or dynamic information can be delivered by the medium. For unmediated interpersonal communication, experiential content includes stimuli affecting additional sensory modalities, such as tactile, proprioceptive, or olfactory senses.

The remaining three characteristics may be defined briefly as follows: The *number of linked sources available* specifies how many sources of content are readily accessible or available to the user at any given usage opportunity. *Media feedback symmetry* refers to whether different parties in the communication process employ differing media bandwidths for sending information. For example, in an Interactive CD, feedback is asymmetric, because the Interactive CD sends high bandwidth information, but the consumer sends low bandwidth information. From the consumer's perspective, this facilitates interactivity because a few simple cursor, mouse, or joystick movements produce dramatic modifications in the environment. When there is symmetric media feedback, all sources in the communication process employ the same media bandwidth for sending information—for example, telephone, mail, and face-to-face communication. *Temporal synchronicity* is a property of interactive media only, does not apply to mass media, and means interaction occurs in real time.

In Figure 5, we present a perceptual map, produced by plotting object scores for 35 media types resulting from a nonlinear principal components analysis (Gifi 1990) of the data from Table 2. The nonlinear principal components analysis is equivalent to a multiple correspondence analysis (Hoffman and de Leeuw 1992), with ordinal restrictions imposed on category quantification of variables assumed to have a known underlying ordering of categories.⁴ To simplify presentation, only the object scores for the rows of Table 2, and not the category quantifications for the columns of Table 2, are plotted.

Following orthogonal rotation of axes, Figure 5 has a clear interpretation. The horizontal axis differentiates impersonal from personal communication media, and the vertical axis differentiates dynamic from static media. Reardon and Rogers (1988, p. 297) argue that "new communication technologies are interactive in nature, and thus cannot be easily categorized as either interpersonal or mass media channels." Indeed, Figure 5 shows that traditional mass media channels occupy positions at the upper left (broadcast media) and lower left (print media), whereas interpersonal

⁴In this case, ordinal restrictions were imposed on the number of linked sources (one, few, many) and the three-category variable specifying presence of text content. The communication model also was treated as two separate ordinal variables—the number of senders (one, few, many) and the number of receivers (one, few, many). Because all other variables were either binary (person-interactivity, machine-interactivity, audio, video, image, experiential, and media feedback symmetry) or nominal (temporal synchronicity), no other ordinal restrictions were imposed.

TABLE 1
Review of Media Comparisons

Source	Communication Media Compared	Characteristics of Communication Media
Dennis and Valacich (1994)	Face-to-face, phone, memo, voice mail, video conference, email, electronic phone, and group support systems	Feedback, symbol variety, concurrency, persistence, ability to rehearse
Perse and Courtright (1993)	Television, video cassette recorder, movies, conversation, phone, computer, newspapers, magazines, books, and radio	11 communication needs (relaxation, entertainment, forget work, friendship, learning, pass time, excitement, feel less lonely, satisfy habits, acknowledge feelings, get someone to do something for me) and social presence
Reardon and Rogers (1988)	Interpersonal communication, interactive media, and mass media	Message flow, source knowledge of the audience, segmentation, interactivity, feedback, asynchronicity, emotional versus task-related content, control, privacy
Steuer (1992)	44 new and old media including newspapers, fax, interactive television, three-dimensional films, sensorama, and the Star Trek Holodeck	Subjective classification according to vividness and interactivity
Stewart and Ward (1994)	Television, radio, magazines, and newspapers	27 characteristics for "gross media comparisons"
Rice (1992)	Email, voice mail, videoconferencing, and on-line databases	Social presence, information richness
Rice (1993)	Face-to-face, email, meetings, phone, desktop video, text, and voice mail	Social presence, appropriateness for ten communication activities (exchange information, negotiate, get to know someone, ask questions, stay in touch, exchange time-sensitive information, generate ideas, resolve disagreements, make decisions, confidentiality)
Valacich and colleagues (1993)	Distributed verbal, face-to-face verbal, distributed electronic, and face-to-face electronic	Communication concurrency Kinds of information, mode of communication
van Dijk (1993)	Two-way cable, videotex, data networks, email, videophone, and interactive video	

media occupy the upper-right position and mail and fax occupy the lower-right position. New media occupy largely intermediate positions, in agreement with Reardon and Rogers (1988), who view new interactive media as combining properties of mass (impersonal) and face-to-face (personal) communication channels.

Figure 5 identifies two points for the Web, one assuming text, image, and audio content (Web alone) and one assuming text, image, audio, and video content (Web plus video). Web plus video content occupies a central position in Figure 5; that is, it is the most "typical" of all communications, sharing characteristics with a wide variety of other media types. The many-to-many communication model underlying the Web positions the Web closer to the personal side of the horizontal axis than it does traditional mass media.

The central position of the Web in Figure 5 corresponds to an important strategic interpretation of the Web as a marketing medium; namely, the Web combines elements from a variety of traditional media, yet is more than the sum of the

parts. For example, broadcast media in the top left quadrant of Figure 5 provide relatively short-term exposure with low information content, whereas the print media in the bottom left quadrant provide relatively long-term exposure with high information content. Advertising strategy on the Web must account for both short-term (decision of which link to select next) and long-term (reading detailed information provided at a commercial site) exposure.

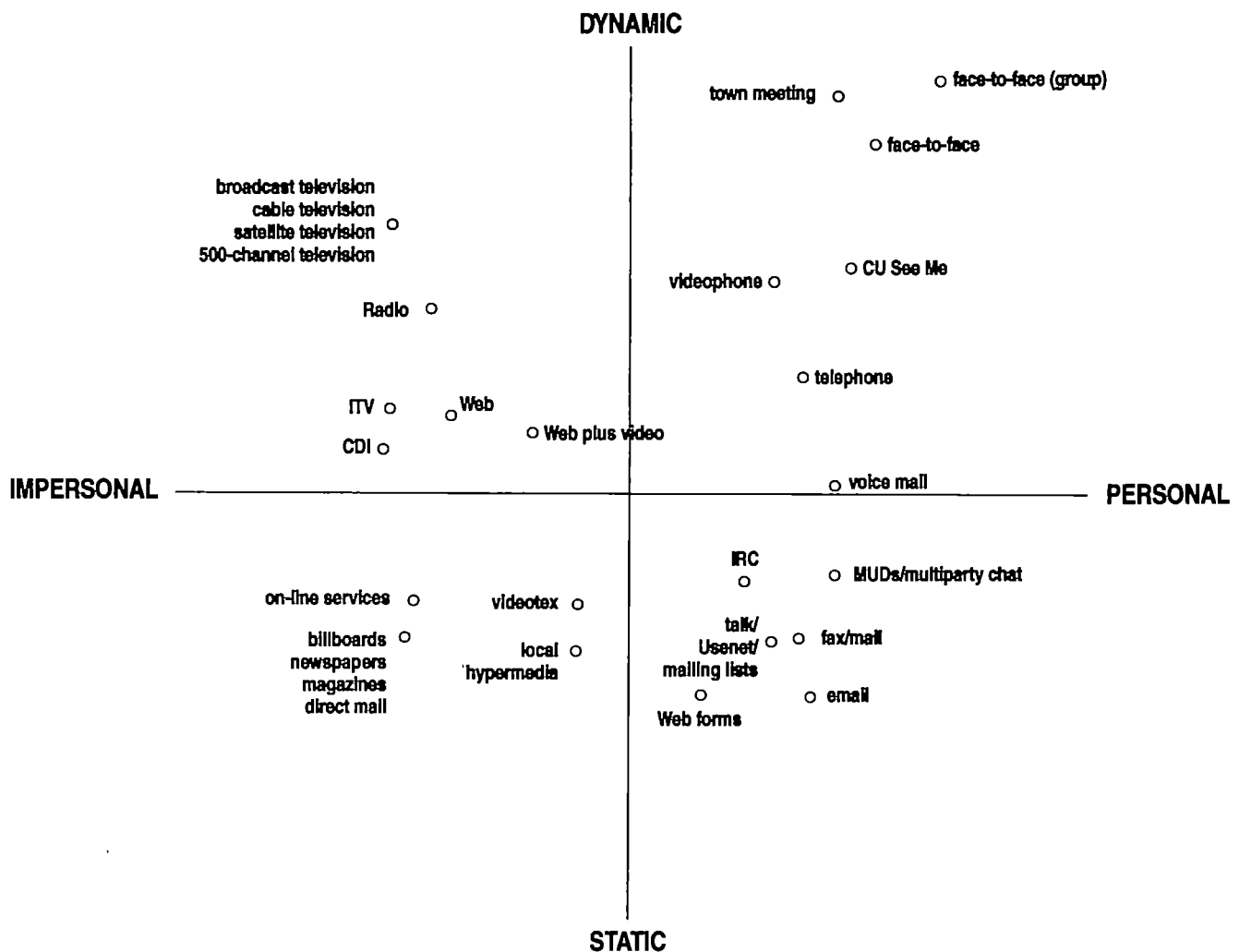
We next discuss a process model of network navigation in hypermedia CMEs such as the Web. There are several unique features of CMEs as media and marketing environments that motivate the process model. As virtual hypermedia environments incorporating interactivity with both people and computers, CMEs are not simulations of real-world environments, but alternatives to them. Within the virtual environment, both experiential (e.g., net-surfing) and goal-directed (e.g., on-line shopping) activities compete for consumers' attention. Consumer skill in functioning in the virtual environment, as well as challenges posed by the envi-

TABLE 2
Objective Characteristics of Media

	Person- interactivity	Machine- interactivity	Number of linked sources	Communication model	Content ^a	Media feedback symmetry	Temporal synchronicity
Mass Media							
Billboards	no	no	one	one-to-many	T, I	yes	n/a
Newspapers	no	no	one	one-to-many	T, I	yes	n/a
Magazines	no	no	one	one-to-many	T, I	yes	n/a
Direct mail	no	no	one	one-to-many	T, I	yes	n/a
Radio	no	no	few	one-to-many	A	no	n/a
Broadcast television	no	no	few	one-to-many	A, V, (T)	no	n/a
Cable television	no	no	few	one-to-many	A, V, (T)	no	n/a
Satellite television	no	no	many	one-to-many	A, V, (T)	no	n/a
500 channel cable television	no	no	many	one-to-many	A, V, (T)	no	n/a
Interactive Media							
Local hypertext	no	yes	one	one-to-many	T	yes	yes
Local hypermedia	no	yes	one	one-to-many	T, I, A, V	no	yes
Dial-up bulletin board service (information only)	no	yes	one	one-to-many	T	yes	yes
CD-Interactive	no	yes	one	one-to-many	T, I, A, V	no	yes
Videotex	no	yes	few	one-to-many	T	yes	yes
Pre-Web On-line Services	no	yes	few	one-to-many	T, I	no	yes
Interactive television	no	yes	few	one-to-many	T, I, A, V	no	yes
World Wide Web	no	yes	many	many-to-many	T, I, A, V	no	yes
Interpersonal Communication							
Mail	yes	no	one	one-to-one	T	yes	no
Fax	yes	no	one	one-to-one	T	yes	no
Telephone	yes	no	one	one-to-one	A	yes	yes
Videophone	yes	no	one	one-to-one	A, V	yes	yes
Face-to-face	yes	no	one	one-to-one	A, V, E	yes	yes
Face-to-face (group)	yes	no	few	few-to-few	A, V, E	yes	yes
Town meeting	yes	no	many	many-to-many	A, V, E	yes	yes
Computer-Mediated Communication							
Email	yes	yes	one	one-to-one	T	yes	no
Voice mail	yes	yes	one	one-to-one	A	yes	no
Talk program	yes	yes	one	one-to-one	T	yes	yes
Email (carbon copy: list)	yes	yes	one	one-to-few	T	yes	no
Multiparty chat	yes	yes	few	few-to-few	T	yes	yes
MUDs	yes	yes	few	few-to-few	T	yes	yes
See you see me	yes	yes	few	few-to-few	A, V	yes	yes
Mailing lists	yes	yes	many	many-to-many	T	yes	no
Usenet newsgroups	yes	yes	many	many-to-many	T	yes	no
Web (forms/annotation)	yes	yes	many	many-to-many	T, I	yes	no
Internet Relay Chat	yes	yes	many	many-to-many	T	yes	yes

^aT = text, I = image; A = audio; V = video; E = experiential. (T) = there is a minor amount of text content.

FIGURE 5
Media Typology Based on Objective Characteristics



ronment, introduce a competency issue that does not exist in such a fundamental manner in the physical world. This issue of whether consumers' skills are competent to meet the challenges of the virtual environment plus the telepresence created by immersion in an interactive hypermedia environment bear directly on the construct of flow, which underlies the process model.

A Process Model of Network Navigation in Hypermedia CMEs

The Flow Construct

Although consumer researchers have explored the role of play in the consumption experience (e.g., Holbrook et al. 1984), we believe the concept of flow in a hypermedia CME holds wider applicability and underlies many crucial components of the consumer's interaction with the firm and its offerings. Simply stated, *flow* is the "process of optimal experience" (Csikszentmihalyi 1977; Csikszentmihalyi and LeFevre 1989, p. 816, emphasis added) preceded by a set of antecedent conditions necessary for the experience to be

achieved and followed by a set of consequences that occurs as a result of the process.

We define the *flow experience* in a CME as the state occurring during network navigation, which is (1) characterized by a seamless sequence of responses facilitated by machine interactivity, (2) intrinsically enjoyable, (3) accompanied by a loss of self-consciousness, and (4) self-reinforcing. In the flow experience, which formalizes and extends a sense of playfulness (Csikszentmihalyi 1977; Csikszentmihalyi and LeFevre 1989), consumers are so acutely involved in the act of network navigation in the hypermedia CME that "nothing else seems to matter" (Csikszentmihalyi 1990, p. 4).

Two primary antecedents must be present in sufficiently motivated users of a hypermedia CME for the flow experience to occur. Consumers must focus their attention on the interaction, narrowing their focus of awareness so that irrelevant perceptions and thoughts are filtered out, and they must perceive a balance between their skills and the challenges of the interaction.

The key consequences of the flow experience for consumers are increased learning, exploratory and participato-

ry behaviors, positive subjective experiences, and a perceived sense of control over their interactions in the hypermedia CME.

When in the flow state, irrelevant thoughts and perceptions are screened out and the consumer focuses entirely on the interaction. The flow experience involves a merging of actions and awareness, with concentration so intense that there is little attention left to consider anything else. A consumer's action in the flow state is experienced as a "unified flowing from one moment to the next, in which he is in control of his actions, and in which there is little distinction between self and environment, between stimulus and response, or between past, present and future" (Csikszentmihalyi 1977, p. 36). Self-consciousness disappears, the consumer's sense of time becomes distorted, and the resulting state of mind is extremely gratifying.

Flow has been previously noted as a useful construct for describing human-computer interactions (Csikszentmihalyi 1990; Ghani, Supnick, and Rooney 1991; Trevino and Webster 1992; Webster, Trevino, and Ryan 1993). Our conceptualization extends these ideas by explicitly developing the flow construct in the context of network navigation in a hypermedia CME and arguing that flow consists of a process state that requires a set of antecedents to occur and results in a set of consequences.

On first inspection, the flow experience may appear to be similar to attention and involvement, as well as other construct events (Privette and Bundrick 1987) of peak experience and peak performance. Privette's (1983) and Privette and Bundrick's (1987) distinction between flow, peak experience, and peak performance is helpful for understanding how flow differs from these related construct events, as well as from attention and involvement. Privette considers attention and involvement to be common qualities of flow, peak experience, and peak performance, but attention and involvement do not differentiate between the three. Flow is characterized by fun and occurs in structured activities in which action follows action. Peak performance is characterized by a clear focus, a strong sense of self (rather than loss of self, as in flow), and a sense of fulfillment, whereas peak experience is characterized by a transpersonal and spiritual quality that has much higher levels of experienced joy than flow has.

Flow is a central construct because of the nature of commercial activity in a CME such as the World Wide Web. It is important to understand that commercial activity on the Web consists of much more than purchasing products in on-line storefronts. Hoffman, Novak, and Chatterjee (1995) identify six functional categories of commercial activity on the Web: on-line storefronts, Internet presence sites, content sites, malls, incentive sites, and search agents. To date, Internet presence sites, rather than on-line storefronts, dominate commercial activity. Using the typology proposed by Hoffman, Novak, and Chatterjee, Kaul (1995) found that only 18% of a random sample of 290 Web sites served as on-line storefronts. The remaining 82% were informational or image-based Internet presence sites or directories of other commercial sites.

Internet presence sites either provide detailed information on a firm's offerings (e.g., the Web sites of Federal Ex-

press, Sun Microsystems, Volvo) or create an image and attempt to build an ongoing relationship with the consumer (e.g., the Web sites of Zima, Reebok, David Letterman). Internet presence sites are a new form of nonintrusive advertising, in which the customer actively chooses to visit and interact with the firm's marketing communication efforts. Recent efforts involve the merging of information and image in innovative ways (see, e.g., L. L. Bean's sophisticated "trail metaphor" Web site at www.llbean.com). Measures of duration time spent at an Internet presence site, depth of search through the site, navigation patterns through the site, and repeat visits to the site are crucial outcome measures for evaluating the effectiveness of such sites. Flow affects all of these outcome measures and is an important consideration for understanding consumer behavior in commercial Web sites.

The process model described subsequently has direct implications for understanding experiential behavior. The primary focus of this process model is on network navigation in integrated destination sites (Hoffman, Novak, and Chatterjee 1995), rather than on mechanisms for search and choice in such environments. Nevertheless, goal-directed processes of prepurchase search and choice in a CME take place against a background of network navigation and involve flow within and across Web sites; we address those issues, as well.

The Process Model

In Figure 6, we present a preliminary process model of network navigation in a hypermedia CME. For expository purposes, we diagram only the most important links. The model in Figure 6 shows neither the complex set of feedback loops and pathways nor the fully dynamic nature of the process. A consumer enters the hypermedia CME and engages in network navigation. There are several points of exit from the environment, as well as opportunities to continue navigation, with flow in essence serving as the glue holding the consumer in the hypermedia CME.

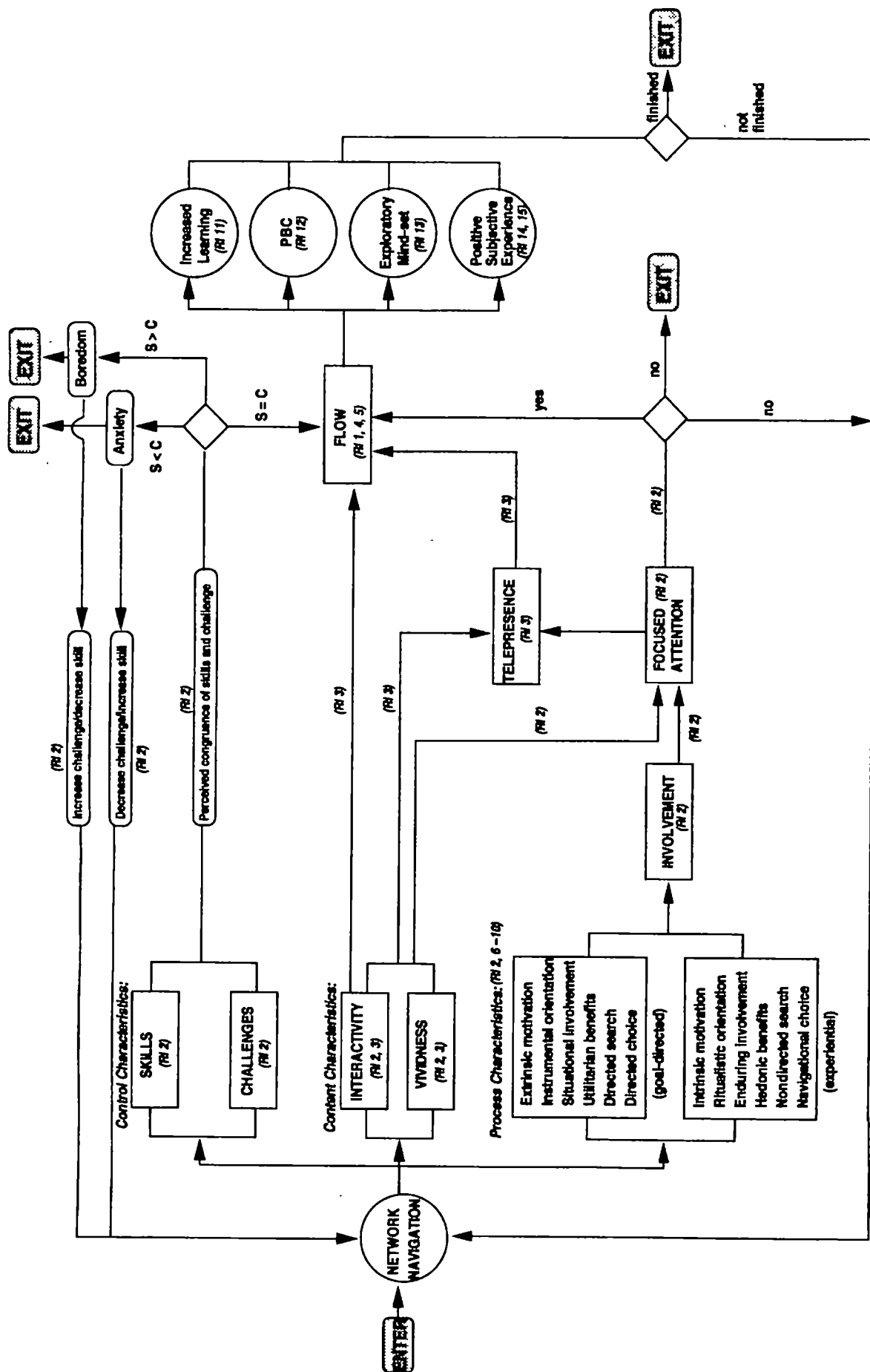
In the following section, we introduce a series of 15 research issues related to the components of the process model shown in Figure 6. We have mapped the research issues on the boxes and pathways of the Figure to provide an overview of how they relate to the process model. Of the first five research issues, the first three deal with flow measurement, whereas the next two deal with consumer heterogeneity and flow in CMEs. In the second five research issues, we discuss experiential and goal-directed behavior in a CME. In the final five research issues, we deal with the consequences of flow.

Research Issues

Flow Measurement

1. Measurement approaches. Reliable and valid measurement of flow is necessary for further development of the preliminary process model in Figure 6. We view flow in a CME as measurable along a continuum and note that flow can be inferred from its antecedents and consequences. Likert scales provide one approach to measuring flow. Ghani, Supnick, and Rooney (1991) and Ghani and Deshpande

FIGURE 6
A Model of Network Navigation in a Hypermedia CME



Note: RI = Research Issue; S = Skills; C = Challenges.

(1994) operationalized flow as a self-report scale containing items measuring enjoyment and concentration. Perceptions of control, skill, and challenge were significantly related to this flow measure. Trevino and Webster (1992) used four items to measure flow. The four items dealt with components of control, attention focus, curiosity, and intrinsic interest. Webster, Trevino, and Ryan (1993) used a 12-item scale expanded from Trevino and Webster's study to measure flow, again measuring the same four components of flow. Although these components correspond more to antecedents of flow than to the flow experience, the scales used were significantly correlated with a variety of consequences of flow, such as enjoyment, positive attitudes, and future usage intentions.

Privette (1983) and Privette and Bundrick (1987) take an alternative approach to measuring flow by asking respondents to describe construct events they have personally experienced involving flow, peak experience, peak performance, average events, misery, and failure. Brief descriptions of these construct events are provided, and respondents provide personal examples of and rate each construct event using Privette's (1984) experience questionnaire. Lutz and Guiry (1994) used a modified version of Privette's experience questionnaire in a study on consumption experiences.

The most widely used approach to measuring flow is the Experience Sampling Method (Csikszentmihalyi and Csikszentmihalyi 1988; Csikszentmihalyi and LeFevre 1989; Ellis, Voelkl, and Morris 1994; Mannell, Zuzanek, and Larson 1988). With the Experience Sampling Method, respondents are electronically paged at random intervals throughout the day, at which point they immediately complete a self-report experiential sampling form with open-ended items and rating scales. On a typical experiential sampling form, respondents rate the experience in which they are currently engaged on the challenge of the experience, their own skills in the experience, a series of items measuring affect and arousal, and items measuring motivation, concentration, and creativity.

A comprehensive flow measurement procedure for a CME must include measures of the antecedent conditions (see Research Issues 2 and 3), consequences (see Research Issues 11 through 15), and variables related to the psychological experience of flow (e.g., lose track of time, self-awareness, concentration, mood, control). We anticipate that qualitative research (such as verbal protocol statements obtained from consumers as they interact with a CME), process tracing measures of actual behavior during the interaction, and survey research (both traditional and electronic) will all be necessary to develop reliable and valid measures of flow in a CME.

2. Primary antecedents of flow. Two primary antecedent conditions are necessary for the flow state to be experienced: (1) skills and challenges must be perceived as congruent and above a critical threshold and (2) focused attention must be present. *Skills* are defined as the consumer's capacities for action, and *challenges* as the opportunities for action available to the consumer in a CME. Only when consumers perceive that the hypermedia CME contains challenges congruent with their own skills can flow potentially

occur. If network navigation in a CME does not provide for congruence of skills and challenges, then consumers either become bored (i.e., their skills exceed the challenges) or anxious (i.e., the challenges exceed their skills) and either exit the CME or select a more (or less) challenging activity within it (see Figure 6).

Csikszentmihalyi's (1977) original model specified that flow occurred when an equal match between skill and challenge was perceived, regardless of whether skill and challenge were equally high or equally low. More recent reformulations (Csikszentmihalyi and Csikszentmihalyi 1988; Csikszentmihalyi and LeFevre 1989) specify that "flow results from experience contexts characterized by a match between challenge and skills only when both challenges and skills exceed the level that is typical for the day to day experiences of the individual" (Ellis, Voelkl, and Morris 1994, p. 338). Congruent skills and challenges that lie below the person's typical level are said to result in an apathy state (Csikszentmihalyi and Csikszentmihalyi 1988). Congruent, above-threshold skills and challenges as a prerequisite for flow are also consistent with the theory of an optimal stimulation level (e.g., Holbrook and Gardner 1993; Raju 1980; Steenkamp and Baumgartner 1992).

Considerable disagreement exists over how many channels, or categories, should be used to represent the various patterns of congruence or incongruence of high and low skills and challenges and how these channels should be labeled. Ellis, Voelkl, and Morris (1994) note that 3-channel (Csikszentmihalyi 1977), 4-channel (Csikszentmihalyi 1988), 8-channel (Csikszentmihalyi and Nakamura 1989; Massimini and Carli 1988), and 16-channel (Massimini and Carli 1988) models have been developed; recently, Clarke and Haworth (1994) proposed a 9-channel model. The labeling of these channels also can be inconsistent. For example, Csikszentmihalyi and Csikszentmihalyi (1988) define low skill and low challenges as *apathy*, whereas Clarke and Haworth (1994) call this combination *relaxation*.

There is also debate about the best way to determine whether skills or challenges exceed the critical threshold or typical level. Most often, within-subject standardization is used (e.g., Csikszentmihalyi and Csikszentmihalyi 1988; Csikszentmihalyi and LeFevre 1989). However, Ellis, Voelkl, and Morris (1994) note that within-subject standardization precludes studying individual differences, which have been found to be an important predictor of flow (see Research Issue 4). Consequently, some researchers (e.g., Clarke and Haworth 1994) do not employ within-subject standardization.

The presence of focused attention is also necessary to experience flow. *Focused attention* is characterized as "a centering of attention on a limited stimulus field" (Csikszentmihalyi 1977, p. 40). Webster, Trevino, and Ryan (1993) note that the computer screen functions as the limited stimulus field and that subjects report being "mesmerized" during their computer interactions. In Figure 6, we indicate the role of the content characteristics of vividness and interactivity in attracting attention. The performance characteristics of ease of use, mapping (naturalness of how human actions are connected to actions in the hypermedia CME;

Steuer 1992), speed, and range all combine to increase interactivity. *Vividness* is defined as “the representational richness of a mediated environment as defined by its formal features” (Steuer 1992, p. 81), such as its breadth and depth. *Breadth* refers to the number of sensory dimensions presented and is closely related to media concurrency (Valacich et al. 1993) and media richness (Daft and Lengel 1986; Daft, Lengel, and Trevino 1987). *Depth* is the resolution or the quality of the presentation (Steuer 1992) and is highly correlated with media bandwidth. In the hypermedia CME, both breadth and depth, in general, are high.

Extrinsic and intrinsic motivation (Csikszentmihalyi 1977, Chapter 1; Davis, Bagozzi, and Warshaw 1992; Graef, Csikszentmihalyi, and Gianinno 1983) are important process characteristics that affect focused attention through involvement (Zaichowsky 1986). Davis, Bagozzi, and Warshaw (1992, p. 1112), in summarizing the motivational literature, note that extrinsic motivation applies to activities performed because they are instrumental to achieving a valued outcome, whereas intrinsic motivation applies to activities performed “for no apparent reinforcement other than the process of performing the activity.” Extrinsic motivation creates situational self-relevance (Bloch and Richins 1983; Celsi and Olson 1988), whereas intrinsic motivation, or *autotelic activities* (Csikszentmihalyi 1977, Chapter 2), create intrinsic self-relevance. We define *involvement* as felt involvement (Celsi and Olson 1988), which is formed by the presence of situational and/or intrinsic self-relevance. Felt involvement affects attention and comprehension effort (Celsi and Olson 1988). In the context of human-computer interaction, Webster, Trevino, and Ryan (1993) find significant positive correlations between factors for intrinsic interest and/or curiosity and focused attention.

3. *Secondary antecedents of flow.* Because of the presence of focused attention and perceived congruence of skills and challenges, two additional antecedents—interactivity and telepresence—enhance flow. These additional antecedents increase the subjective intensity of the consumer’s flow state, though they are not sufficient alone to produce a flow state. A strong sense of telepresence (i.e., the mediated perception of an environment) is induced by vividness and interactivity (Sheridan 1992), as well as focused attention. Although the user of a hypermedia CME always experiences some level of telepresence and interactivity, higher levels can boost flow. Feedback loops, however, also must be considered. When telepresence is too high—for example, when the medium is too “hot” (McLuhan, 1964, p. 36)—challenges may become greater than skills and flow cannot be achieved (Steuer 1992).

For marketers, the primary and secondary antecedents of flow suggest that flow is not a constant state. Consumers move in and out of flow—as a function of control, content, and process characteristics. To some extent, all these characteristics may be influenced by marketing activities. The congruence of skills and challenges is something that can be facilitated by interface design. For example, a user-specified difficulty level can be designed to avoid anxiety in novice users and boredom in experienced users. Because lack of congruence may lead the consumer to exit the CME, it is im-

portant to provide opportunities for consumers to actively select activities that create congruence. Content characteristics such as interactivity and vividness lead to telepresence and can be affected directly through product design considerations. Process characteristics, specifically the distinction between extrinsically and intrinsically motivated consumers, are an important segmentation basis.

Consumer Heterogeneity and Flow in CMEs

4. *The autotelic personality.* Consumers are heterogeneous in their ability to experience flow in a CME. Csikszentmihalyi (1977, pp. 21–22) distinguishes between autotelic experiences, activities, and personalities. Flow is the autotelic experience; autotelic activities are those activities relatively more likely to lead to flow; and the autotelic personality trait characterizes a person “who is able to enjoy what he is doing regardless of whether he will get external rewards from it” (Csikszentmihalyi 1977, p. 22) and who thus is more likely to experience flow for a given activity. Csikszentmihalyi (1988) later suggests that the ability to experience flow may be learned in the family, developed through practice, or even have a neurological component. Whatever the underlying explanation for the individual differences, Ellis, Voelkl, and Morris (1994) find that considerable variation in subjective experience was explained by variables that indicated the autotelic nature of the person, over and above the variance explained by the perceived congruence of skills and challenges. For marketers, the crucial implication is that the relative likelihood a person will experience flow is an important segmentation basis in a CME.

5. *Optimal stimulation level and flow.* People with a higher optimal stimulation level (OSL) are more likely to possess the autotelic personality trait. The fundamental idea of OSL theories (e.g., Zuckerman 1979) is that an intermediate level of stimulation obtained from the environment corresponds to the most favorable affective reaction. Furthermore, there are individual differences in the OSL—with people having a higher OSL exhibiting increased curiosity-motivated, variety-seeking, risk-taking (Steenkamp and Baumgartner 1992), and exploratory behavior (Raju 1980). Holbrook and Gardner (1993) found the duration time of consumption of an experiential good to be related to an optimal arousal level, which has clear implications for experiential consumer behavior in a CME.

As we previously discussed, flow in a CME requires the congruence of above-threshold skills and challenges. Yet, people with low optimal stimulation levels are more likely to experience anxiety in their initial interactions with a CME, as they will be overwhelmed by the wide variety of options available to them and will perceive their skills to be well below the uncomfortably high stimulation level of the CME (i.e., the challenges of the task). Furthermore, people with low OSLs who have mastered the basics of network navigation also are more likely to later become bored with a CME, as they will be relatively less likely to seek out sufficiently high challenges to maintain congruence with their increasing skills. Thus, we anticipate that people with higher OSLs are more likely to possess the autotelic personality trait and experience flow in a CME.

Experiential and Goal-Directed Behavior in a CME

6. Definition of experiential and goal-directed behavior

Two broad categories of behavior in which consumers engage during time spent in a CME are goal-directed and experiential behavior. Goal-directed and experiential behavior are characterized respectively by (1) extrinsic versus intrinsic motivation, (2) instrumental versus ritualized orientation, (3) situational versus enduring involvement, (4) utilitarian versus hedonic benefits, (5) directed versus nondirected search, and (6) goal-directed versus navigational choice.

For example, the corporate buyer using the Web to close a deal for computer components experiences an extrinsically motivated, instrumental, goal-directed flow state. On the other hand, net surfers exploring the Web in their daily quest for the latest interesting sites experience an intrinsically motivated, ritualized, experiential flow state. It is important to recognize that consumers engage in both goal-directed and experiential behaviors, flow may occur with both types of behaviors, and the optimal design of a CME site differs according to whether the behavior is goal-directed or experiential.

In the communications literature, a distinction is drawn between instrumental and ritualized orientations to media (Rubin 1984; Rubin and Perse 1987). Ritualized orientations focus "more on the medium, rather than on particular content," are "associated with diffuse motives (e.g., pass time, habit, relaxation)," and are a "less intentional and non-selective orientation, a time-filling activity" (Rubin and Perse 1987, p. 59). In contrast, instrumental orientations are "more intentional and selective," which reflects "purposive exposure to specific content" (p. 59). The distinction between instrumental and ritualized orientations bears considerable resemblance to the classification of expected benefits in the marketing literature into utilitarian and hedonic or experiential benefits (e.g., Havlena and Holbrook 1986; Srinivasan 1987), which as we previously noted are, respectively, extrinsically and intrinsically motivated.

We also can differentiate flow states resulting from goal-directed and experiential behaviors on the basis of involvement and search behavior. Most commercial Web sites currently provide information rather than offer an opportunity to purchase a product. Thus, much of today's consumer search activities are more likely to involve what has been termed *ongoing search* than *prepurchase search* (Bloch, Sherrell, and Ridgway 1986, p. 121). Similarly, Biehal and Chakravarti (1982, 1983) distinguish between directed and nondirected learning. Bloch, Sherrell, and Ridgway (1986) note that ongoing search is a function of enduring involvement with the product (or with the CME), whereas prepurchase search is a function of situational involvement with the purchase.

For choice, in experiential behavior, "activities are not guided by goals or outcomes, but by the process itself" (Bloch, Sherrell, and Ridgway 1986, p. 121). Similarly, Deci and Ryan (1985, p. 155) note that for intrinsically motivated people engaged in flow, choice is "intuitive and spontaneous" and does not involve conscious, deliberate decisions. Consumer choice in goal-directed behavior is based on a clearly definable goal hierarchy, and movement through this goal hierarchy involves choices among prod-

ucts and services, information sources, and navigational alternatives. Consumer choice in experiential behavior is dominated by choices among navigational alternatives and corresponds to a relatively unstructured and continually changing goal hierarchy.

7. *Search motives and involvement for experiential and goal-directed behavior.* Goal-directed versus experiential behaviors depend on distinct search motives combined with the object of involvement:

Search Motive	Involvement	Behavior
Task completion	Situational involvement with goal →	Goal-Directed
Prepurchase deliberation	Situational involvement with product →	Goal-Directed
Build information bank	Enduring involvement with product →	Experiential
Opinion leadership	Enduring involvement with product →	Experiential
Recreation	Enduring involvement with process →	Experiential

Goal-directed behaviors are characterized by situational involvement and directed search. In general, a CME user is involved with a specific task-completion goal. Marketers are particularly concerned with understanding the prepurchase deliberations for product purchase goals. Search motives in experiential behaviors, however, are more varied. When the consumer exhibits enduring involvement with a product or product category, Bloch, Sherrell, and Ridgway (1986), Biehal and Chakravarti (1982, 1983), and Bettman (1979) indicate that consumers may search to build an information bank or knowledge base in their memories for potential future use. In addition, Richins and Root-Shaffer (1988) find that enduring involvement (occurring in experiential flow) led to opinion leadership, whereas situational involvement did not. Thus, an opinion leader may be motivated to search and engage in experiential behaviors to disseminate product news, advice, and personal experience by word of mouth. Moreover, consider that consumers may be involved with the CME itself. Bloch (1995) suggests that there likely are two segments of consumers who navigate a CME: (1) those who exhibit enduring involvement with an interest area and (2) those who are navigating because they exhibit enduring involvement with computers. We propose that the latter segment is engaged in nondirected search for recreational purposes (Bloch, Sherrell, and Ridgway 1986; Csikszentmihalyi 1983).

Thus, experiential behavior is relevant for (1) word-of-mouth strategies based on influencing opinion leaders, (2) providing entertainment and recreation, and (3) enhancing consumers' product knowledge, whereas goal-directed behavior is relevant for task-specific use of a CME, such as prepurchase deliberation. This distinction is critical and suggests that marketers should take care to focus not only on goal-directed behaviors in a CME (e.g., product purchase),

but also on nondirected experiential behaviors (e.g., net surfing), which are strategically important as well.

8. *External memory.* A CME can provide devices for external memory: User-generated "bookmark files" containing custom lists of consumers' favorite Web sites are cases in point, as is comparative information about brands (e.g., product reviews), which is directly retrievable through an on-line storefront. Although information gained from goal-directed search activity is more accessible in memory than that from experiential search activity, CMEs provide devices for external memory that negate this advantage. Biehal and Chakravarti (1983) find that information retrieved from directed search (goal-directed) had greater memory accessibility than information retrieved from nondirected search (experiential). Furthermore, the likelihood of choosing a brand for which information was acquired during directed search was not significantly different than the likelihood of choosing a brand for which information was externally available; in both situations, the choice likelihood was greater than when brand information was acquired through nondirected search. However, the external memory devices present in CMEs imply that information retrieved from nondirected search should have a greater impact on subsequent consumer choice behavior than that in traditional environments, because the external memory devices are used by the consumer.

9. *Choice behavior and decision making in a CME.* We also distinguish goal-directed and experiential behavior on the basis of consumer decision and choice processes. Most research on consumer choice and decision making in marketing deals with activities directly involving or motivated by product purchase (e.g., Payne, Bettman, and Johnson 1993). Although theories of problem-solving behavior have been developed for extensive, limited, and routine problem-solving scenarios, all three scenarios are typically motivated by a purchase outcome. In a CME, however, the process of network navigation continually confronts the consumer with an ongoing series of decisions that are potentially but not necessarily related to a purchase outcome or other task completion. Although existing models of adaptive decision making can explain much of goal-directed choice in a CME, they hold relatively lesser applicability to navigational choice in flow occurring from experiential behavior. In addition, CMEs provide devices that augment the individual decision processes with input from communal or machine agents.

Choice in experiential behavior primarily involves an ongoing series of navigational decisions of what to do next. This is a highly unstructured activity and, as was noted previously, corresponds to an intrinsically motivated, ritualized, hedonic use of the CME. Nonetheless, a key assumption of the nature of adaptive decision behavior expected in goal-directed situations—"that people are motivated to use as little effort as necessary to solve a problem" (Payne, Bettman and Johnson 1993, p. 13)—would realistically hold in nondirected experiential situations as well. Thus, in deciding among navigational alternatives, heuristics and noncompensatory decision rules most likely would be applied in experiential activities. Relatively little research, however, deals with choice behavior during experiential activities, so we must be

cautious and not overly dependent on goal-directed decision strategies to provide explanations of consumer choice. We liken flow from experiential behaviors to navigating through an amusement park where the visitor is presented with a wide array of ride choices in a nonlinear fashion.

For flow occurring with experiential behaviors, outcome variables other than choice should be investigated. For example, Holbrook and Gardner (1993) argue that duration time is a critical outcome measure of consumption experiences, and Olney, Holbrook, and Batra (1991) use viewing time as a dependent variable in a model of advertising effects. Indeed, duration times are a useful behavioral indicator of experiential versus goal-directed orientations. For example, 43% of all calls to the French Minitel system are for the electronic telephone directory (a goal-directed activity) but account for only 21% of the total connect time. On the other hand, only 6% of all calls to Minitel are for the chat services (an experiential activity), but they account for 15% of the total connect time (Cats-Baril and Jelassi 1994).

In structured decision environments, such as an on-line storefront offering a variety of goods, the strategies typically applied by consumers in traditional environments (e.g., Payne, Bettman, and Johnson 1993, Chapter 2) are likely to be used. These strategies, however, will be augmented by powerful decision aids (e.g., Payne, Bettman, and Johnson 1993, Chapter 7) that are feasible only in a CME. At the most basic level, these decision aids involve information displays that increase the consumer's processing capacity, whereas more sophisticated approaches use decision support systems to assist the decision maker. Both of these categories of decision aids are local, rather than network-based, because they involve only information presented at a given location in a CME.

Intelligent interface agents (e.g., Maes 1994) provide a network-based decision aid, which is particularly useful for vastly enhancing the consumers' ability to perform search activities by reducing information overload. An example of an agent present on the World Wide Web is Digital Research Laboratory's Alta Vista search engine (www.altavista.digital.com), a robot program that automatically traverses the World Wide Web in search of hypermedia documents and stores and categorizes them in an extensive and rapidly growing database that can be accessed by an intelligent search interface. As of March 1996, the Alta Vista database can access 11 billion words found in over 22 million Web pages.

Although agents have been portrayed in the popular media as engaging in semiautonomous, high-level, human-like interactions, "the most successful interface agents are those that do not prohibit the user from taking actions and fulfilling tasks personally" (Maes 1994, p. 31). Thus, agents can serve as effective decision aids in an information intensive environment. One promising approach in a networked environment such as a CME are collaborative interface agents (Lashkari, Metral, and Maes 1994), which combine decision aids across a segment of similar consumers, rather than rely on a single consumer's input.

10. *Developmental patterns of flow states.* We expect that experiential behavior dominates a user's early flow ex-

periences in a CME, but that over time goal-directed behavior also leads to flow experiences. Early interactions in the hypermedia CME that lead to flow are characterized by a nondirected, time-passing, ritualized quality. Over time, ritualized use evolves into instrumental use as consumers accumulate experience navigating within the medium. A greater degree of technical skill is required to successfully perform goal-directed behaviors than experiential behaviors. Experiential behaviors, in which the consumer experiments and becomes familiar with the CME, are accompanied by an increase in skills that the consumer develops to meet the challenges presented by the environment. In other words, learning occurs and consumers begin to seek greater challenges. Thus, an "instrumental" orientation is likely to dominate a consumer's later interactions in the environment, though both orientations may be present at different points in time, depending on consumer characteristics.

This discussion has important implications for the adoption of CMEs, particularly for those people seeking the "killer application." Developmental patterns of flow states suggest that goal-directed behaviors such as home shopping and home banking do not necessarily lead to flow for new users of a CME. On the other hand, experiential behaviors, such as browsing on-line magazines, participating in interactive chat rooms, and exploring a Web corporate home page for a topic with which the consumer exhibits enduring involvement, would be more likely to lead to flow and thus stimulate adoption in new users.

The Consequences of Flow

In the final set of research issues, we address consequences of flow. Based on the existing literature, consumers who experience flow in a hypermedia CME achieve increased learning, increased perceived behavioral control (PBC), increased exploratory and participatory behavior, and positive subjective experiences. In addition, we briefly consider potentially negative consequences of flow. Research Issues 11 through 15, seen in the context of the network navigation model in Figure 6, contrast consumers who experience the flow state versus those who do not. These research issues apply to both heterogeneity *across* consumers according to their ability to experience flow (Research Issue 4) and heterogeneity *within* consumers according to whether flow is experienced (Research Issues 2 and 3). Thus, flow is viewed as both a trait and a state, much as Webster and Martocchio (1992) view playfulness as both a trait and a state. Note that other researchers have viewed positive mood as both a trait and a state (e.g., George 1991).

11. Consumer learning. Consumers who experience the flow state are more likely to retain more of what they perceive than consumers who do not. Playfulness (Webster and Martocchio 1992) and flow (Webster, Trevino, and Ryan 1993) have been found to relate to learning. Early ritualized use of a CME (i.e., scanning, exploring, and wandering; see Canter, Rivers, and Storrs 1985) facilitates the learning needed to progress to instrumental usage involving browsing and searching (i.e., purposive search behavior to identify on-line vendors selling products or services desired by

the consumer). Webster, Trevino, and Ryan (1993) suggest that because consumers develop and apply their abilities through exploratory behaviors that characterize flow interactions, learning is a reasonable outcome of the flow state.

The distinction between directed and nondirected learning (Bettman 1979; Biehal and Chakravarti 1982, 1983) further differentiates flow occurring in goal-directed and experiential behaviors. In experiential behavior, ongoing, nondirected search produces latent learning (Hilgard and Bower 1966, pp. 199–200), in which the consumer learns about the environment, "even if the specific knowledge gained has no direct relevance to current purchases" (Bettman 1979, p. 88). In goal-directed behavior, a product choice decision or specific task completion is the primary goal for learning. Consumer learning suggests that flow resulting from goal-directed behaviors leads to more informed decisions, whereas flow resulting from experiential behaviors leads to greater recall and word-of-mouth activities.

12. Perceived behavioral control. Consumers who experience the flow state in a hypermedia CME are expected to have greater PBC than those who do not. *Perceived behavioral control* is defined as "the perceived ease or difficulty of performing the behavior and ... is assumed to reflect past experience as well as anticipated impediments and obstacles" (Ajzen 1988, p. 132). Perceived behavioral control is a component of Ajzen's (1988, 1991) theory of planned behavior, extends the well-known theory of reasoned action (Ajzen and Fishbein 1980), and is useful for predicting behaviors that are not under complete volitional control. Similar to the original expectancy-value model, the theory of planned behavior posits that conceptually independent determinants of attitudes toward the behavior, subjective norms with respect to the behavior, and a new component—*perceived control over the behavior*—affect behavioral intentions. In addition, PBC directly affects behavior. Thus, usage of a hypermedia CME (for those people with the prerequisite technology) depends jointly on motivation (intentions) and ability (behavioral control).

Perceived behavioral control (cf. Bandura's [1977, 1982] earlier notion of *perceived self-efficacy*) also can be interpreted as a confidence construct and is an important determinant of CME usage, because behavior in a CME is strongly influenced by consumers' confidence in their ability to engage in network navigation. A consumer's perception of behavioral control over CME use and its impact on intentions and actions is more important than real control (Ajzen 1988).

Flow significantly correlates with perceived control (Ghani, Supnick, and Rooney 1991). Webster, Trevino, and Ryan (1993) define control as one of four dimensions of flow and find that it significantly correlated with two of the other three dimensions (curiosity and intrinsic interest, but not attention focus). Webster and Martocchio (1992) find a significant correlation between microcomputer playfulness and self-rated computer competence. Because the hypermedia CME is, first and foremost, an interactive environment, it affords the foundation for consumer control that is impossible in traditional, passive media. Control comes from both consumers' perception of their ability to adjust the CME and their perception of how the CME responds to

their input, with consumer adjustment taking the form of network navigation.

We here imply that flow resulting from experiential behavior results in increased PBC over network navigation, whereas flow resulting from goal-directed behavior results in increased PBC over task completion. Because the former is a prerequisite for the latter, experiential behavior flow facilitates the learning necessary to "move up" to goal-directed activities.

13. Exploratory behavior. We expect that consumers who experience the flow state in a hypermedia CME exhibit more exploratory behaviors than those who do not. Webster, Trevino, and Ryan (1993) found that flow correlated positively with experimentation and perceptions of software flexibility and modifiability. Other researchers have found that higher levels of playfulness or flow in human-computer interactions correlate with higher experimentation (Ghani and Deshpande 1994; Ghani, Supnick, and Rooney 1991; Katz 1987). This argues for a flexible hypermedia environment that encourages exploratory behavior on the part of consumers. Implications of increased exploratory behaviors are increased risk taking in goal-directed behaviors (Raju 1980; Steenkamp and Baumgartner 1992) and broader exposure to content in experiential behaviors. Furthermore, increased exploratory use has been found to lead to greater extent of use (Ghani and Deshpande 1994).

14. Positive subjective experiences. We expect that consumers who experience the flow state in a hypermedia CME exhibit more positive subjective experiences than those who do not. Webster, Trevino, and Ryan (1993, p. 412) note that "higher playfulness results in immediate subjective experiences such as positive mood and satisfaction" (Csikszentmihalyi 1977; Levy 1983; McGrath and Kelly 1986). Previous research on human-computer interactions (Sandelands and Buckner 1989; Starbuck and Webster 1991; Webster and Martocchio 1992) has shown that higher degrees of pleasure and involvement during computer interactions lead to concurrent subjective perceptions of positive affect and mood. A study conducted by Gardner, Dukes, and Discenza (1993) shows that the more people use computers, the more their self-confidence with respect to computers increases. This in turn causes more favorable attitudes toward computers. Csikszentmihalyi (1977 p. 36) notes that "people seek flow primarily for itself;" thus, flow itself serves as a positive reinforcer, which increases the probability of further use of a hypermedia CME.

Together, positive subjective experiences and the increased PBC resulting from flow feed back into the planned behavior model discussed previously and increase the probability that the CME will be used in the future. Webster, Trevino, and Ryan (1993) find flow to be positively correlated with expectations of future voluntary computer interactions. Thus, we anticipate that the positive affect generated by flow translates into longer duration time spent visiting a CME and increased repeat visits.

15. Distortion in time perception. The positive subjective experience of flow also has been linked to a distortion in time perception (Csikszentmihalyi 1977), whereby the

consumer is unaware of the passage of time. Hauser, Urban, and Weinberg (1993) provide a model of how, in the presence of time pressure, the allocation of search time to negative information sources increases, whereas in the absence of time pressure, the allocation of search time to positive information sources increases. Thus, to the extent that the flow state reduces time pressure and increases time spent at the site, it contributes to a relatively greater amount of time being allocated to searching for positive information sources. Because of the tendency of computer-mediated environments to encourage negative word-of-mouth communications, actions that marketers can take to facilitate positive search behavior become particularly important.

Negative consequences of flow. There are some potentially negative consequences of flow that must be considered. Because flow can be its own reward, consumers may explore a CME for its own sake, rather than purposely search for specific information. Thus, too much flow may distract the consumer from purchase-related activities. As Webster, Trevino, and Ryan (1993, p. 422) note, playfulness may produce longer time to task completion; at an extreme, "playful computer systems may be so enjoyable that employees neglect other tasks." However, if one marketing objective of a hypermedia CME is to encourage the consumer to spend time at the site examining product-related information, for example, then this is not necessarily a problem. Flow has also been linked to overinvolvement (Csikszentmihalyi 1977), which leads to mental and physical fatigue. A related source of cognitive fatigue stems from the overwhelming complexity inherent in global hypermedia content (Gygi 1990).

Discussion and Conclusion

The hypermedia CME represents a fundamentally different environment for marketing activities than do traditional media and so-called interactive multimedia. The many-to-many communication model turns traditional principles of mass media advertising (based on the one-to-many model of Figure 1) inside out, rendering impossible the blind application of marketing and advertising approaches that assume a passive, captive consumer. Thus, marketers must carefully consider the ways in which advertising and communication models can be adapted and reconstructed (e.g., see Hoffman and Novak 1996) for the interactive, many-to-many medium depicted in Figure 3. In that new communication model, consumers can actively choose whether to approach firms through their Web sites and exercise unprecedented control over the management of the content with which they interact.

The opportunity for customer interaction in the hypermedia CME also is unprecedented. This can be utilized in numerous ways, including (1) the design of new products, (2) the development of product and marketing strategy, and (3) the innovation of content. The evolution of content in a hypermedia CME depends on not only the evolution of existing metaphors and communication codes from traditional media, but also new techniques and conventions inherent in the possibilities of the medium itself (Biocca 1992). One implication of this is that the content that makes hypermedia

CMEs commercially successful likely has not been invented yet and may require more than a simple continuous innovation of existing content (Grossman 1994).

Because consumers vary in their ability to achieve flow, new bases for market segmentation are needed for marketing in hypermedia CMEs. Scholars must determine the variables that relate to a consumer's propensity to enter the flow state. Such information can be used to develop marketing efforts designed to maximize the chances of the consumer entering the flow state. Because we believe that repeat consumption behavior, that is, repeat visits to a hypermedia CME, are increased if the environment facilitates the flow

state, the marketing objective at trial must provide for these flow opportunities.

In summary, the new medium-as-market represented by the hypermedia CME—of which the World Wide Web on the Internet currently stands as the preeminent prototype—offers a working example of a many-to-many communication model in which the consumer is an active participant in an interactive exercise of multiple feedback loops and highly immediate communication. As such, it offers dynamic potential for growth and development, as well as a virtual revolution in both the way marketing academics and practitioners alike approach the problem of effective, consumer-oriented marketing in emerging media environments.

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Do Organizational Practices Matter in Role Stress Processes? A Study of Direct and Moderating Effects for Marketing-Oriented Boundary Spanners

Previous research and meta-analyses suggest that the influence of organizational variables on boundary role stress processes is weak and marginal. Using the emerging work in organizational practices and configurations, the authors reexamine this relationship by addressing three critical gaps: (1) conceptualizing organizational environment as a multidimensional practices construct, (2) operationalizing the organizational environment as configurations or combinations of practices dimensions, and (3) testing for direct and moderating hypotheses. The results reveal that organizational practices matter significantly in boundary role stress processes. The findings show that procedural environments are dysfunctional because they engender higher levels of role stressors, reduce performance, and negatively affect the psychological well-being of boundary spanners. In contrast, the achievement and affective-oriented environments involve distinct trade-offs, because none is clearly superior. The authors discuss the theoretical implications for further research and provide recommendations for managerial practice.

The pivotal role of marketing-oriented boundary spanners (e.g., sales, customer service) in organizational effectiveness is recognized by researchers and practitioners alike, especially in times of relationship building (Ganesan 1994), interorganizational alliances (Webster 1992), and turbulent environments (Achrol 1991). Paradoxically, this recognition comes with the realization that boundary spanners are susceptible to high levels of role stress (Behrman and Perreault 1984; Belasco 1966; Michaels, Day, and Joachimsthaler 1987) and burnout (Singh, Goolsby, and Rhoads 1994). Concerned about its implications for behavioral outcomes and psychological well-being, researchers have accumulated an impressive body of knowledge about the consequences of role stressors for critical job outcomes, including the job satisfaction, performance, commitment, and turnover of marketing bound-

ary spanners (e.g., Behrman and Perreault 1984; Churchill, Ford, and Walker 1976; Michaels, Day, and Joachimsthaler 1987; Singh 1993). Summaries of this literature have appeared as meta-analysis in marketing (Brown and Peterson 1993) and in organizational psychology (Fisher and Gitelson 1983; Jackson and Schuler 1985).

Recently, marketers have begun to probe the effects of the organizational environment on boundary spanners' perceptions of role stress and its consequences for behavioral outcomes (Jaworski, Stathakopoulos, and Krishnan 1993; Singh 1993). Unfortunately, the vast majority of studies have tended to focus solely on an "individual-difference" analysis—that is, differential effects of individual perceptions, resources, and attitudes on job outcomes (Behrman and Perreault 1984; Churchill, Ford, and Walker 1976; Fry et al. 1986; Michaels, Day, and Joachimsthaler 1987; Ramaswami, Agarwal, and Bhargava 1993). Although this literature has provided useful insights, emerging views suggest that an explicit account of the organizational environment is necessary to understand fully boundary role stress processes and its consequences. We show that this view is not only intuitively appealing, but also is grounded in theories of role stress. Moreover, we discuss key issues involved in accounting for the effects of the organizational environment and posit hypotheses for its influence on boundary role stress processes. Finally, we empirically test our hypotheses and delineate the key insights obtained. We begin with a review of the relevant literature

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Literature Review and Study Rationale

Boundary Role Stress

Almost three decades ago, boundary role stress was recognized as a critical factor in the behavior and job-related attitudes of marketing professionals (Belasco 1966). Using the theoretical framework provided initially by Kahn and colleagues (1964), the boundary role stress literature in marketing focused its attention on two constructs in particular—role ambiguity (RA) and role conflict (RC)—and grew rapidly (Behrman and Perreault 1984; Churchill, Ford, and Walker 1976; Fry et al. 1986; Singh 1993). Although this literature is varied, rich, and still growing, three major turning points can be identified that underscore the significance of boundary role stress research. First, in their model of motivation and performance in industrial selling, Walker, Churchill, and Ford (1977) posited RA and RC as critical determinants of salesperson performance and satisfaction. This model spawned a whole stream of research, and the study of boundary role stress assumed critical importance. Second, about a decade later when Churchill and colleagues (1985) conducted a meta-analysis of key determinants of salesperson performance, they found that role perceptions correlated more highly with job performance than with *any* other predictor utilized. This helped place boundary role stress at the center of research efforts directed toward understanding the performance of boundary spanners in marketing. Third, the significance of boundary role stress was further elevated when Brown and Peterson (1993) published their meta-analysis of major antecedents of salesperson job satisfaction. On the basis of a comprehensive analysis of 59 usable studies corresponding to 254 effects, Brown and Peterson reported (1) boundary role stress constructs, namely, RA and RC, as the key direct antecedents of job satisfaction, with significant effects across studies and (2) a nomological model (based on theory) that captured the observed interrelationships (across studies) among boundary role stress, job satisfaction (JS), job performance (JP), organizational commitment (OC), and turnover intentions (TI) (see Figure 1). The second result is especially important because it helps distill the relevant literature down to a specific model of underlying processes that includes just nine interrelationships (shown in Figure 1).¹ In this model, RA and RC play a critical role by acting as direct antecedents of both JP and JS (paths 1–4 in Figure 1). Moreover, the influence of RC and RA on OC and TI is mediated by JP and JS (paths 5–8 in Figure 1). Finally, OC is specified as a direct determinant of TI (path 9 in Figure 1). Overall, Brown and Peterson's meta-analysis produced a reasonably sound foundation for modeling boundary role stress processes.

¹Brown and Peterson (1993) test several different variations of the model in Figure 1. Their "hypothesized" and "revised" models contain eight nomological relationships of which only six are common among the preceding models. The model in Figure 1 utilizes their hypothesized model and two additional paths (JS → TI and JP → TI).

Influence of Organizational Variables

Attempts have been made to study the influence of organizational variables on boundary role stress processes. These attempts are motivated by the view that role stress is not just an individual concern; instead, organizations influence how (individual) role stress emerges and affects critical (individual) outcomes (Hackman and Oldham 1976; Lazarus and Folkman 1984). Thus, understanding linkages between organizational variables and role stress processes is likely to aid organizations in developing a "low stress" environment, help boundary spanners cope with stress, and enhance boundary spanners' effectiveness (Churchill, Ford, and Walker 1976; Leigh, Lucas, and Woodman 1988).

Following Brown and Peterson (1993), we categorize organizational variables as (1) job/task and (2) supervisory characteristics. The job/task variables based on the job characteristics model (Hackman and Oldham 1976) include skill variety, task identity and significance, autonomy, job feedback, job complexity, job control, and job scope (Ramaswami, Agarwal, and Bhargava 1993). Using path goal theory (House 1971), marketers have examined supervisory variables, including role clarification, communication, feedback, close supervision, and consideration behaviors (Fry et al. 1986). Although mixed results have been obtained, in general, research indicates that *lower* levels of role stressors (e.g., RC and RA) and *higher* levels of job outcomes (e.g., JS, JP) are associated with varied, challenging, and enriching jobs/tasks (e.g., greater variety, autonomy, identity, feedback). Similarly, supportive supervisor behaviors (e.g., greater consideration, communication, closeness) are generally associated with *lower* levels of role stressors and *higher* levels of job outcomes.

Recently, interest has shifted toward organizational variables that are neither characteristics of the specific job/task nor related to the immediate supervisor. Rather, they reflect general practices that pervade entire groups, divisions, strategic business units, or organizations. An example is Jaworski, Stathakopoulos, and Krishnan's (1993) notion of professional and cultural controls defined at the divisional level, which reflect the degree of interaction (and/or cooperation) and group identification, respectively. Other examples include degree of formalization (Michaels, Day, and Joachimsthaler 1987), centralization (Cummings, Jackson, and Olstrom 1989), and rule observation (Ramaswami, Agarwal, and Bhargava 1993). A notable point is that, at least conceptually, these variables (hereinafter referred to as *organizational practices*) are defined at a higher hierarchical level than job/task or supervisory variables. Using such organizational practices, researchers have probed their influence on boundary role stress processes. For example, in a sample of marketing boundary spanners, Ramaswami, Agarwal, and Bhargava (1993) find that codification (of jobs/tasks) is not related to RC, but is positively associated with RA. In contrast, rule observation (by management) is unrelated to RA but positively associated with RC. They (p. 189) note that rule observation may be "construed as being necessary for maintaining discipline and fairness ... [but] a strict enforcement [of rules] may be construed as a hindrance to deal[ing] with role stressors."

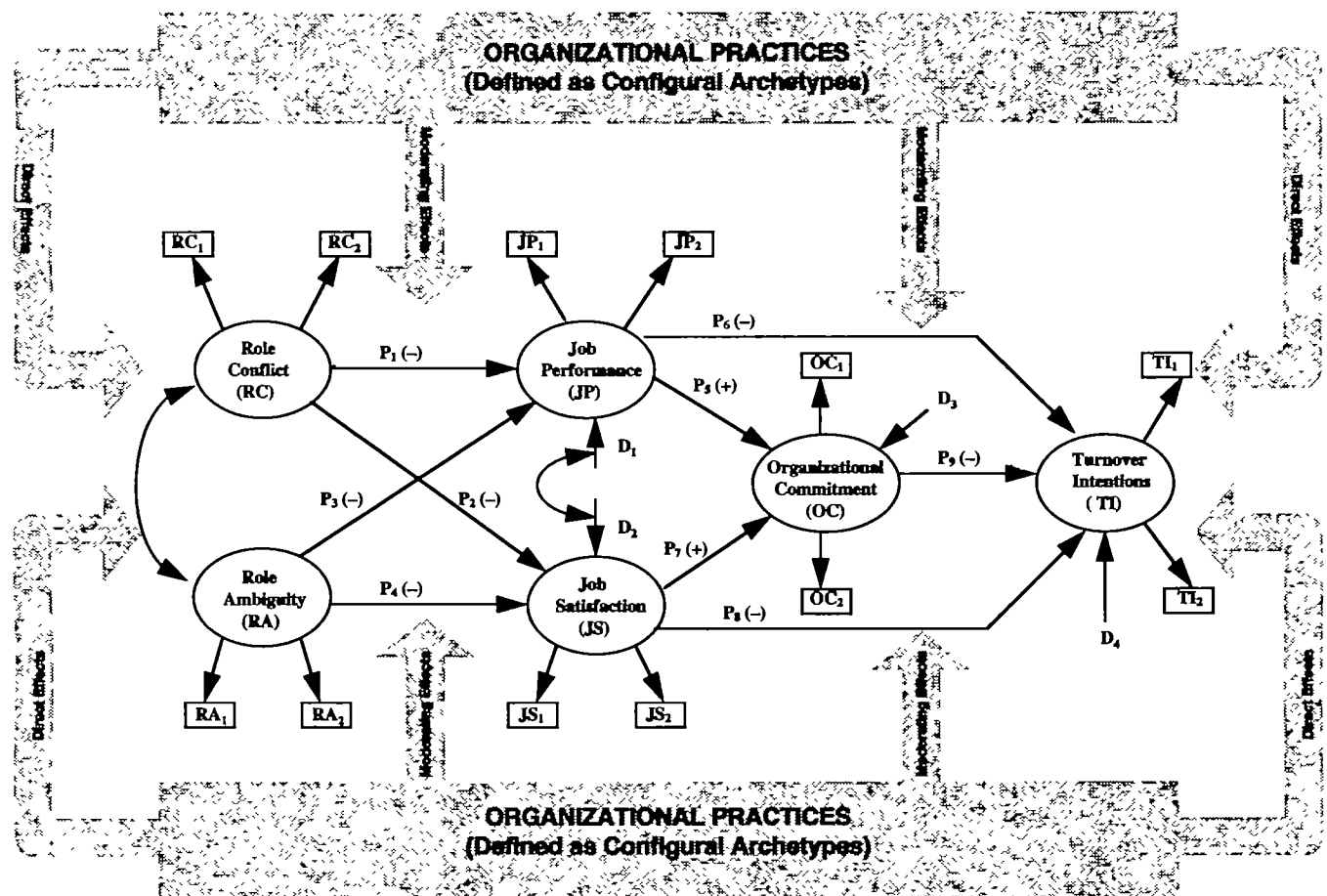
Likewise, Cummings, Jackson, and Olstrom (1989) find that higher levels of structure and formalization are related positively to RC and negatively to RA. This suggests that, when firms clearly define and document the roles and activities of employees and thereby reduce role ambiguity, they do so at the expense of increased conflicts. Such trade-offs due to contrasting effects on RA and RC have remained largely unexplored.

Finally, Jaworski, Stathakopoulos, and Krishnan (1993) examine combinations of organizational practices to develop a typology of control systems (e.g., bureaucratic/clan, high/low); in turn, these control systems are related to role stressors. They find that "high" control systems are associated with low RC and RA, whereas "bureaucratic" control systems are related to high RC but low RA. Because such contrasting insights are not possible when each control variable is used independently, Jaworski, Stathakopoulos, and Krishnan conclude that there is demonstrable evidence in favor of examining combinations or, more appropriately, *configurations* of organizational variables. Few studies have

adopted their recommendation for studying organizational variables.

Overall, the direct effect of organizational variables was weak. In Brown and Peterson's (1993) meta-analysis, the influence of supervisory behaviors and job/task variables on JS was .30 and .26, respectively, thus, accounting for less than 10% of explained variance. Hence, Brown and Peterson (p. 68) claim that their model excludes organizational variables and indicates "considerable robustness and generalizability ... across relationships and study contexts." Likewise, in a meta-analysis, Churchill and colleagues (1985, p. 109) find that organizational variables explain "only 1% of the variation in performance," and this influence was the "lowest ... among the six categories of predictors studied." These findings parallel results from Jackson and Schuler's (1985) meta-analysis in that organizational variables have significant, negative, but weak (< 15% shared variance), direct effects on role stress variables, with marginal direct effects on job outcomes.

FIGURE 1
The Model for Understanding the Direct and Moderating Effects of Organizational Practices on Boundary Role Stress Processes



Note: The basic model of interrelationships among role conflict, ambiguity, job performance, satisfaction, organizational commitment and turnover intentions is based on Brown and Peterson's (1991) metaanalysis. Organizational practices are operationalized as three distinct configurational archetypes. The direct effects involve the variation in mean values of the six constructs in the basic model across the three archetypes. The moderating effects constitute difference in the nine modeled relationships for different configurational archetypes.

The empirical view that organizational variables matter little in boundary role stress processes is at odds with the conceptual arguments of different role stress theories. For instance, Kahn and colleagues' (1964) role episode model posits that (1) people as role occupants perceive role stressors (e.g., RC, RA), (2) episodes that increase perceived levels of role stressors trigger a process that affects a person's behavioral (e.g., JP) and psychological (e.g., JS) outcomes, (3) the organizational environment serves as a context within which such role episodes are enacted, and (4) to the extent that organizational environments vary both within (e.g., group, department) and across firms, these contextual variables act as moderating factors in role stress processes. These theoretical principles appear to underlie the conventional wisdom in such expressions as "different individuals in similar roles may perceive different amounts of role stress," and "in different organizational environments, similar role demands may have different impact on individual's job outcomes." Other theories of role stress, such as Lazarus and Folkman's (1985) transactional theory and Edwards' (1992) cybernetic approach, also posit organizational variables as key determinants, though they differ in other important ways.

Critical Assessment and Gaps

A critical assessment of previous empirical research reveals three gaps: (1) choice of organizational variables, (2) level of analysis, and (3) moderating effects. We discuss each in turn.

Choice of organizational variables. Previous studies have tended to focus on a narrow range of organizational variables limited mainly to job/task and supervisory factors (Brown and Peterson 1993). These variables have two advantages: They are (1) rooted in sound theoretical frameworks (e.g., path-goal, Job Characteristic Model) and (2) proximal to boundary spanners' immediate task environment. Their disadvantages include an inability to tap the environment that pervades their group or division. To the extent that distal and proximal environments differ, an overemphasis on proximal variables may obscure the influence of organizational practices on boundary spanner stress and its consequences.

Using organizational practices to study role stress processes should be fruitful for other reasons as well. First, Poole (1985) has argued that practices are more visible to organizational members and play a key role in linking organizational environment and individual outcomes, because the practices are anchored in the behaviors of organizational members. Second, practices allow for specifying multiple attributes of the environment because the organization is conceptualized as a multidimensional practices construct (Hofstede et al. 1990). This multidimensionality facilitates a richer description of organizational environment. Third, behaviors and activities of organizational members reflect "theories-in-use" and, consequently, provide a common basis for describing the organizational environment. This aspect can be exploited to obtain consensual schemas of practices that are shared among several boundary spanners. Fourth, practices are amenable to managerial intervention. By focusing on behavioral practices, this approach helps isolate practices that

require behavioral modification so as to enhance the positive effects of organizational environment on boundary spanners. Although organizational practices have not received much attention in the marketing literature, researchers in organizational psychology have made significant advances in conceptualizing and developing this construct.

Collective versus individual level of analysis. Marketers have approached the study of organizational variables primarily from a decompositional, *individual-level* perspective. In this approach, the environment is decomposed into its relevant dimensions, which are defined at the individual-level and used as antecedent variables in a role stress model. For example, Singh (1993) uses three individual-level dimensions—autonomy, feedback, and consideration—to define the organizational environment and studied their effects on RA and job outcomes of boundary spanners. Few studies use a compositional, *collective-level* perspective wherein the environment is defined at a higher level (e.g., group or division) as combinations of its characteristics (Jaworski, Stathakopoulos, and Krishnan 1993).

A compositional approach uses multiple dimensions of organizational practices as input and seeks to uncover a few dominant combinations—termed *configural archetypes*—that represent shared interpretive schemas of organizational environments (Meyer, Tsui, and Hinings 1993; Miller 1987). This approach is based on the notion that though infinite combinations are theoretically plausible because individual practices dimensions could vary independently, only a fraction of the theoretically plausible combinations are empirically viable. This empirical restriction occurs because dimensions are interdependent and often can change only discretely. Hence, a configural archetype, or configuration, is a multidimensional constellation of relevant characteristics (e.g., practices) that empirically occur together (e.g., high result-orientation combined with open communications).²

Using a compositional approach to study organizational practices has several advantages (Meyer, Tsui, and Hinings 1993): First, it approaches organizational practices from a holistic stance because it characterizes the environment as a configuration of multiple practices dimensions. This contrasts sharply with the decompositional approach, which seeks to study the independent, separate effects of each practices dimension. Second, a compositional approach yields configurations that are not unique to an individual boundary spanner. Rather, each configuration represents a "schema" that is collectively shared by a group of people. Hence, configurations are more appropriate for organizational-level phenomenon than are individual dimensions. Third, few previous studies use a compositional approach to study organizational environments; therefore, in and of itself, identifying empirically viable configurations of organizational practices should yield an important contribution to

²Two procedures dominate for identifying the configural archetypes: (1) on a priori conceptual grounds, in which each archetype represents an "ideal" combination or (2) on post hoc empirical grounds using grouping techniques (e.g., cluster analysis), in which each archetype represents a "viable" combination (Doty and Glick 1994). In initial stages of research, the latter approach is more common (Dess, Newport, and Rasheed 1993).

the field. Fourth, and more important, a compositional approach enables the investigation of linear and equifinal effects as rival propositions. The linear postulate is consistent with much previous research in marketing and is based on the notion of "more is better" or "ideal-point" models. Specifically, it posits that, given any two organizational environments, (1) it is possible to identify a single configuration that is ideally more favorable than the other because it provides more of the underlying characteristics (e.g., communication, autonomy, feedback), and (2) a more favorable configuration would invariably be associated with lower levels of role stressors (e.g., RC, RA) and higher levels of positive job outcomes (e.g., JS, JP, OC) than the other configurations. In contrast, the equifinality proposition argues that it is highly unlikely that a specific configuration is significantly superior to other configurations across all dependent variables considered (e.g., role stressors and job outcomes). Rather, the more likely scenario is that two or more configurations are equally effective for some dependent variables (e.g., JP), or alternatively they are differentially effective (e.g., one configuration is associated with higher JS, but another engenders higher JP). In other words, an equifinal view denies the presumed superiority of any specific configuration. In this sense, the proposition of equifinality embodies the notion of nonlinear effects (i.e., "more is not always better"). Such equifinality notions are difficult to test in a decompositional approach.

Moderating effects. Marketers have been less interested in studying the moderating effects of organizational variables. Instead, the most frequently utilized approach is to test for direct (main) effects of organizational variables on role stressors and job outcomes (Cummings, Jackson, and Olstrom 1989; Fry et al. 1986; Singh 1993). For example, Singh (1993) hypothesizes that autonomy, feedback, and consideration have a direct negative effect on different facets of role ambiguity. Similarly, Ramaswami, Agarwal, and Bhargava (1993) examine the main effects of participation, formalization, variety, identity, and feedback on the role stressors, commitment, and alienation of marketing practitioners.

The hypotheses of direct effects stem from a situational perspective that draws heavily on social learning theories and behavioral psychology (Terborg 1981). Essentially, this perspective argues that a person's response (i.e., behavior) is learned mainly through social situations, such that variability in responses is attributed to differences in situational characteristics (Terborg 1981). Hence, we see the main effects of organizational (situational) variables.

Nevertheless, an overemphasis on direct hypotheses is surprising, because a moderating or interactional perspective is central to such underlying theories as path-goal (House 1971), job characteristics (Hackman and Oldham 1976), and role episode (Kahn et al. 1964). Recent studies have attempted to address this gap by using organizational factors as moderators of the relationship between role stressors and job outcomes (Leigh, Lucas, and Woodman 1988). Yet, only a few moderators have been studied. For example, Michaels and Dixon (1994) test the moderating effect of work group cohesiveness on only two bivariate relationships, RA → OC and RC → OC.

Thus, it is apparent that a study examining the moderating effects of configural archetypes of organizational variables—such as practices—on the role stressors and job outcomes of boundary spanners is likely to fill critical gaps in the literature. It also is likely to be more fruitful if it eschews bivariate effects. In contrast, a multivariate analysis offers a more cogent test of the moderating hypothesis. Multivariate analysis involves testing for moderating effects on a set of relationships that capture boundary role stress processes described in Figure 1.

Research Objectives and Hypotheses

Specifically, three research objectives guide our study:

1. What are the distinct configural archetypes that capture boundary spanners' shared interpretive schemas of organizational practices?
2. What, if any, are the effects of these configural archetypes on boundary spanners' perceived (mean) levels of role stressors (i.e., RC and RA), psychological outcomes (i.e., OC and JS), and behavioral outcomes (i.e., TI and JS)?—which lead to the *direct* hypotheses.
3. What, if any, are the effects of configural archetypes on boundary spanners' role stress processes—that is, the nomological relationship between perceived role stressors and psychological (i.e., OC and JS) and behavioral (i.e., TI and JP) outcomes?—which lead to the *moderating* hypotheses.

Configural analysis of organizational practices. The first aim utilizes the notion of configurations or combinations to study organizational practices. Configurations that are empirically grounded usually are derived by cluster analysis of relevant empirical data. However, to obtain relevant empirical data, it is critical to use dimensions of the practices construct that are reasonably reliable and valid. On the basis of definitions provided by Denison (1990), Poole (1985), and Hofstede and colleagues (1990), we conceptualize organizational practices as (1) systematic and customary activities and behaviors of organizational members that are (2) rewarded, supported, and expected by a subgroup and/or organization (i.e., unit).

Specifically, we use Hofstede and colleagues' (1990) operationalization that specifies organizational practices as a five-dimensional construct.³ Each dimension represents a continuum describing a specific characteristic (e.g., process-results orientation). In Appendix A, we describe these dimensions along with a typical operational item. Using data from ten different Dutch and Danish firms, Hofstede and colleagues provide evidence for the validity of practices dimensions. As examples, units scoring high on the open communication dimension tended to employ significantly larger percentages of women employees, and the Danish units scored higher on the openness dimensions than the Dutch units. Likewise, larger units tended to be more professionally oriented, whereas smaller units scored

³Hofstede and colleagues (1990) report a sixth dimension, tight-loose control. Their notion of control is dramatically different from the control literature in marketing (cf. Anderson and Oliver 1987). Hence, this dimension was excluded.

lower on this dimension. Units with low scores for the job-employee continuum evaluated their employees on the basis of market standards (e.g., profit), whereas units with high scores tended to use internal standards (e.g., budgets). Also, manufacturing units tended to have low scores on results-process continuum, whereas research and development and service units tended to have high scores. In so far as the preceding evidence is consistent with logical expectations, the practices dimensions appear to possess face and ecological validity.

From a boundary spanner's perspective, organizational practices can be viewed as either inherently favorable or unfavorable. For example, employee-oriented practices are likely to be viewed by boundary spanners as generally favorable, whereas job-oriented practices are not (see Appendix A). Although individual preferences may vary, the five continuums of organizational practices defined here are such that the "high" end of the continuum is associated with inherently favorable evaluations, whereas the "low" end is generally unfavorable. Thus, practices that are "open," "professional," and "employee-," "process-," and "customer-oriented" are considered inherently favorable for the boundary spanner. Any given organization is likely to be a mix, or more appropriately, a configuration, of inherently favorable and unfavorable practices.

The direct hypotheses. The second objective investigates the direct effects of organizational practices on two role stressors—RC and RA—and four job outcomes—JS, JP, OC, and TI. Previous research in marketing is based solely on direct effects, because studies have tried to examine the direct influence of various "organizational" variables. We extend this research by testing the rival propositions of linear and equifinal effects. The linear proposition, consistent with much previous research, suggests that an inherently favorable archetype is likely to engender significantly lower role stressors and higher positive job outcomes than is an unfavorable configuration. The underlying rationale is based on the "more is better" dictum and drawn from JCM and path goal theory, as we previously noted. In other words, a configuration that has more of the inherent favorable features is likely to be associated with significantly lower levels of RC, RA, and TI and higher levels of JP, JS, and OC. In contrast, the postulate of equifinality is that these archetypes are equivalent in terms of some dependent variables (e.g., some role stressors and/or job outcomes have equivalent mean values across configurations) or, alternatively, are differentially equivalent (e.g., one archetype engenders lower RC or RA, while another results in higher JP or JS). The equifinal proposition has not been investigated in prior research studies. Because plausible configurations have not yet been identified empirically, it is difficult to posit more specific *a priori* hypotheses.

The moderating hypotheses. The third aim is to test two rival moderating propositions. The linear postulate argues that inherently favorable (unfavorable) archetypes likely result in uniformly alleviating (amplifying) effects

on boundary spanners' role stress processes. For example, we hypothesize that in inherently favorable archetypes, the negative effect of role stressors on positive job outcomes is buffered or reduced relative to unfavorable archetypes. Moreover, for favorable archetypes, the effect of positive job outcomes (e.g., JS) is amplified for other positive outcomes (e.g., OC) and buffered for other negative outcomes (e.g., TI) relative to unfavorable configurations. This is referred to as the buffering hypothesis (Pearlin et al. 1981).

An alternative, rival view is based on proponents of equifinality and argues that different configural archetypes may be equally potent in their buffering and/or amplifying capacity. That is, for example, the effect of role stressors on job outcomes is equally buffered or reduced in multiple archetypes. More plausibly, different archetypes may be differentially potent. For instance, it is plausible that an inherently favorable archetype may buffer the negative effect of role stressors on JS but have no significant alleviation of role stressors' effect on JP. Absent prior research on moderating hypothesis, we are unable to propose more specific *a priori* hypotheses.

Research Design and Method

To test the underlying research hypotheses, we needed the cooperation of a U.S. and Dutch multinational company (MNC). In each case, we focused on their subsidiary located in the Netherlands. Although these subsidiaries are not direct competitors, they do operate in similar industrial markets with products ranging from photocopying to medical (e.g., imaging) equipment. The choice of multiple MNCs within single-nation markets offers several advantages, including (1) variability in practices, because they represent the confluence of the MNC's and local (i.e., Dutch) cultural orientations, (2) across-firm variability within the same industry, and (3) control over confounding factors in cross-national studies.

We selected all marketing boundary spanners (i.e., customer service, salespeople) from both subsidiaries for participation in the study. In all, 170 personnel in the Dutch subsidiary (hereinafter Firm A) and 209 in the U.S. subsidiary (hereinafter Firm B) resulted in a target population of 379. Each participant received a questionnaire in Dutch, a cover letter explaining the purpose of the study, and an addressed envelope in which to return the survey directly to the researchers.

After two follow-ups, a total of 212 responses were received (response rate = 56%) of which 188 were usable (usable rate = 50%). Response rates were 59% in Firm A and 53% in Firm B, and this variability was nonsignificant. Respondents in Firms A and B did not differ significantly in their aggregate response to various measures of the study. Overall, 50% of the respondents were salespeople, and over 87% were male. The median age was 35 years (range = 23–60 years), and over 67% had at least the equivalent of a high school education. Sixty-nine percent were married, whereas approximately 22% were single. The median income was 40,000–60,000 guilders (about \$24,000–\$35,000).

Procedures

We developed a survey instrument using focus group data to modify available, frequently utilized measures of key constructs. We utilized reduced forms of some scales based on factor loadings and relevance to keep the survey within reasonable length. Initially, an English version of the questionnaire was formulated and later translated into Dutch through an iterative process of translation–back-translation–comparison. Two bilingual scholars independently translated the English version to Dutch, and back-translated the Dutch version to English. Comparison of the two English versions revealed areas for improvement. In addition, a marketing faculty from a major Dutch University was involved in all stages to ensure accurate and meaningful survey items. Finally, the Dutch version was pretested and modified.

Measurements

In Appendix B, we summarize the scales used to assess role stressors and job outcomes, as well as their measurement characteristics.

Organizational practices. We utilized a 20-item scale (after refinement) to measure organizational practices that were drawn from items developed and validated by Hofstede and colleagues (1990). Hofstede and colleagues provide abbreviated items to reflect central themes (scale materials are copyrighted). Based on these themes, we developed items suitable for focal boundary spanners.

A common factor analysis of the 20 practice items suggested five factors that were indicated by a relatively clear break in scree plot after the fifth eigenvalue. Together, these five factors explained approximately 53% of the total variance. The five factors were rotated to an oblique solution for clarity, resulting in an interpretable solution with items loading highly on their hypothesized, theoretically meaningful factors and relatively small cross-loadings. These factors are

1. closed–open oriented (four items, $\alpha = .68$),
2. parochial–professional oriented (five items, $\alpha = .62$),
3. job–employee oriented (six items, $\alpha = .78$),
4. results–process oriented (two items, $\alpha = .53$), and
5. internal–customer oriented (three items, $\alpha = .63$).

Clearly, some practice dimensions evidence less than desirable levels of reliability, which indicates that more developmental work is needed. However, these dimensions correspond to meaningful, interpretable factors and evidence significant reliable variance given the number of items per dimension.

Role stressors. Role conflict (RC) and role ambiguity (RA) were measured by three items, each of which was drawn from Rizzo, House, and Lintzman's (1970) work. All responses were obtained on a five-point strongly disagree–strongly agree scale. The alpha reliabilities were .74 and .71, respectively.

Job outcomes. The JS variable was operationalized as a six-item scale adapted from Ironson and colleagues' (1989)

study. It assesses boundary spanners' overall satisfaction with their jobs. This measure has been employed by several researchers in organizational psychology and has been found to have acceptable reliability and validity. The reliability of this scale was estimated as .81.

A self-rating, six-item measure of JS, which was drawn from Dubinsky and Mattson's (1979) study, was used. In this measure each boundary spanner was asked to evaluate him- or herself in comparison with coworkers on a five-point scale (ranging from bottom 10% to top 10%) on six different dimensions. This scale achieved acceptable reliability ($\alpha = .80$).

Organizational commitment (OC) was operationalized with a four-item version of a scale from Porter and colleagues' (1974) study. The scale achieved acceptable reliability ($\alpha = .65$). Finally, TI was assessed by a three-item measure based on Donnelly and Ivancevich's (1975) study. Responses were obtained from a five-point strongly agree–strongly disagree Likert scale of self-reported items concerning boundary spanners' thoughts about quitting the organization. This measure has been used often in previous research. Cronbach's α for this measure was .88.

Data Analysis

We designed a three-stage analytical strategy. First, we sought to uncover the distinct archetypes of organizational practices using a multistep cluster analysis procedure with the five dimensional composites of organizational practices as input. The data were randomly split into an analysis sample (100 cases) and validation sample (88 cases). We used the analysis sample to generate initial seeds from the Wards method and used the nonhierarchical K-means method to obtain configural archetypes. We further examined plausible solutions, using the validation sample to isolate a solution with maximum validity. The validity was based on the correspondence between a constrained (archetypes defined by the analysis sample) and an unconstrained (archetypes defined by the validation sample) solution. Once a validated structure of archetypes was obtained, the data were pooled for the next stage of the analytical strategy.

Second, we tested the direct hypothesis. The configural archetypes (step 1) served as the multicategory independent treatment variable. The dependent variables included the two role stressors (RC, RA) and four job outcomes (JS, JP, OC, and TI). Initially, we used MANOVA by including all dependent variables to test the direct hypothesis. If the null hypothesis of no differences was rejected, we conducted individual ANOVAs with each dependent variable. The overall Type-I error was controlled by the Scheffe comparison procedure.

Third, we tested the moderating hypothesis by analyzing the model of Figure 1 through Multiple Group Latent Variable Structural Equations modeling. This approach has several advantages. First, it enables us to simultaneously estimate the hypothesized model in each identified archetype. Second, it allows for "restricted" models that include systematic constraints on relationships among constructs. Thus, it is possible to test if one or more estimated coefficients are invariant across the configural archetypes. Third, the esti-

mated coefficients reflect relationships among underlying theoretical constructs and are adjusted for measurement error. Fourth, it provides a systematic basis for evaluating the fit of the hypothesized model to data. This is based on a χ^2 statistic, incremental fit indices (e.g., normed fit index, or NFI; comparative fit index, or CFI), and other indicators including Akaike's Information Criterion (AIC) and Average Offdiagonal Standardized Residual (AOSR) (Bentler 1990, 1992).

Due to multigroup procedures, we analyzed covariance matrices and utilized unstandardized coefficients for drawing substantive conclusions. The data were transformed using a procedure according to Joreskog (1971): (1) pool data across all configural archetypes, (2) standardize all measures for the pooled data ($\mu = 0, \sigma = 1$), and (3) recover data for each archetype for separate analysis.

Results

Configural Analysis of Organizational Practices

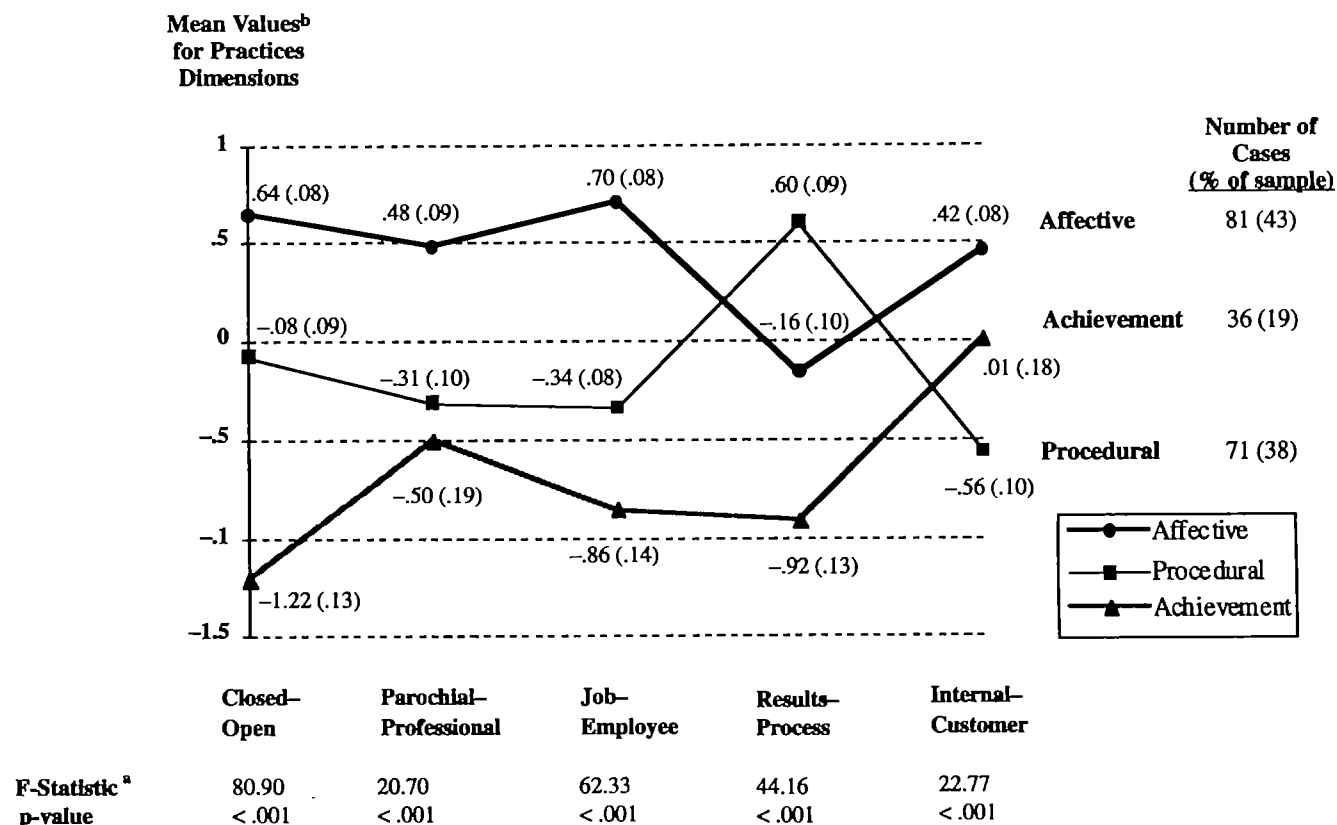
Hierarchical cluster analysis suggested two to six as the plausible range of meaningful clusters. Using the analysis sample to generate cluster seeds for each plausible solution, we fitted constrained and unconstrained nonhierarchical so-

lutions to the validation sample to isolate the solution with the highest validity coefficient, Kappa. The Kappas for two-, three-, four-, five-, and six-cluster solutions were .86, .93, .91, .85, and .72, respectively. The highest Kappa for the three-cluster solution suggested that these clusters were homogeneous and distinct from each other. A discriminant analysis with the three clusters as the dependent variable and practices dimensions as the independent variables yielded canonical correlations of .80 and .70, respectively, and a Wilks's Λ of .17 ($F = 49.7, p < .001$), which indicated that over 58% of the variance between clusters is accounted for. Thus, boundary spanners' evaluations of five practices dimensions yield a high degree of convergence and cohesion along three distinct, shared schemas (see Figure 2).

Figure 2 reveals that the three configural archetypes differ significantly along each dimension (F values $> 20, p < .001$) and, consistent with Ostroff (1993), are labeled as *procedural*, *affective*, and *achievement*.⁴ A procedural archetype differs from other configurations because it is per-

⁴Hereinafter, we use the subscripts *pr*, *aff*, and *ach* to refer to characteristics of procedural, affective, and achievement archetypes, respectively.

FIGURE 2
Configurations of Organizational Practices: Profiles and Summary Statistics



^aThe F-statistic tests the univariate hypothesis that, for a given dimension, the mean values are equal for each of the three configural archetypes. The associated degrees of freedom are 185.

^bThe numbers in the Graph are mean Z-values for each dimension evaluated at the centroid of each configural archetype. The corresponding standard errors are in parentheses.

ceived as highly focused on processes ($X_{pr} > X_{aff} > X_{ach}$) relative to outcomes ($X_{pr} = .60$, $F = 44.2$, $p < .001$) and least customer-oriented ($X_{pr} < X_{ach} < X_{aff}$; $F = 22.8$, $p < .001$). As such, a procedural environment is focused on internal (e.g., profitability, efficiency), rather than on external, market factors. Moreover, in contrast to an affective archetype, a procedural archetype reflects a moderate orientation toward open communication ($X_{pr} = -.08$) and is perceived as less professional ($X_{pr} = -.31$) and employee-oriented ($X_{pr} = -.34$). Because of its emphasis on internal processes, we refer to this archetype as a procedural orientation.

The affective archetype reflects an organizational environment that, in comparison to achievement and procedural archetypes, is characterized by high levels ($X_{aff} > X_{pr}$; $X_{aff} > X_{ach}$; $p < .001$) of open communication ($X_{aff} = .64$, $F = 80.9$, $p < .001$), professional attitude ($X_{aff} = .48$, $F = 20.7$, $p < .001$), employee focus ($X_{aff} = .70$, $F = 62.3$, $p < .001$), and customer orientation ($X_{aff} = .42$, $F = 22.8$, $p < .001$). For the process dimension, an affective archetype reflects a moderate orientation ($X_{aff} = -.16$). Because of its emphasis on open communication and concern for the customer and employee, we refer to this archetype as an affective orientation.

The achievement configuration represents the other extreme, as it depicts an environment that is least (i.e., $X_{ach} < X_{pr}$; $X_{ach} < X_{aff}$; $p < .001$) open ($X_{ach} = -1.22$), professional ($X_{ach} = -.50$), employee-oriented ($X_{ach} = -.86$), and process-focused ($X_{ach} = -.92$) but, at the same time, is moderately (i.e., $X_{aff} > X_{ach} > X_{pr}$; $p < .001$) customer-oriented ($X_{ach} = .01$). Because practices dimensions are continuums, this archetype also can be viewed as an environment that is highly focused on the job (instead of the employee), maintains a high level of results orientation (rather than process), operates within a less open communication system, and is somewhat parochial. Because of its emphasis on results and tasks, we label this archetype as an achievement orientation.

In Figure 2, we provide additional insights. In all, the procedural, affective, and achievement archetypes reflect shared schemas of 38%, 43%, and 19% of boundary spanners, respectively. As such, the procedural and affective are the more dominant archetypes. Nevertheless, an achieve-

ment archetype is a distinct configuration and reflects the shared perceptions of a significant number of boundary spanners. Finally, we conducted additional tests to examine if the three configural archetypes are influenced by (1) individual factors and (2) organizational unit or group factors. For the first hypothesis, we ran a MANOVA with archetypes as treatment variables and with several dependent variables: (1) age, (2) sex, (3) marital status, (4) nature of job (sales or service), (5) years of experience in the profession, (6) income, (7) years of experience in the present job, (8) education, and (9) firm membership (A or B). This produced Wilks's $\Lambda = .84$, $F = 1.67$, $df = 18$, 326 , $p = .04$, and an effect size of 8%, which indicates that the influence of individual factors is marginal. For the second hypothesis, we categorized each boundary spanner into eight groups, where each group is a formal unit headed by a manager, and ran a two-way analysis to examine the relationship between group affiliation and configural archetypes. This produced $\chi^2 = 36.2$, $df = 14$, $p < .001$, and a phi coefficient of .44, thereby suggesting that group factors have a strong influence on perceived archetypes.

Test of the Direct Hypotheses

We test two rival direct propositions—linearity and equifinality. Note that an affective environment has more of the favorable characteristics than other archetypes. Hence, the linear proposition is that an affective archetype engenders lower RC, RA, and TI, and higher JP, JS, and OC than do the procedural and achievement archetypes. The rival position of equifinality is that one or more archetypes may be equivalent for some role stressors and/or job outcomes.

Initially, we ran MANOVA with role stressors and job outcomes as dependent variables and configural archetypes as treatment variables. This produced a Wilks's Λ of .80 ($F = 3.36$, $p < .001$), thereby suggesting that mean values of role stressors and job outcomes vary significantly across the three archetypes. The canonical correlation is .40; therefore, the preceding differences are substantively meaningful. We next conducted specific tests for the linear and equifinal propositions.

TABLE 1
Mean Differences for Theoretical Constructs

	Configural Archetypes ^a			ANOVA Results ^b	
	Procedural	Affective	Achievement	F-Statistic	p-value
Job Outcomes					
Turnover Intentions	2.09	1.73	2.38	7.51	< .001
Organizational Commitment	3.68	3.85	3.61	2.19	.11
Job Performance	3.94	3.91	3.80	.83	.44
Job Satisfaction	3.79	4.10	3.85	5.97	.003
Role Stressors					
Role Conflict	2.67	2.31	2.79	7.25	< .001
Role Ambiguity	2.41	2.06	2.59	11.08	< .001

^aThe reported values are composite means computed separately for each configural group. Also, mean values in bold differ significantly from other mean values along the same row on the basis of the Scheffe multiple comparison procedure ($p = .05$).

^bThese are results from a one-way ANOVA with configural groups as the treatment variable.

The results offer mixed support for the linear postulate (see Table 1). The linear hypothesis is supported in regards to TI, JS, RC, and RA. This is because, compared to the procedural and achievement configurations, an affective archetype results in the lowest level of TI ($X_{\text{aff}} = 1.73$, $F = 7.51$, $p < .001$), and the highest level of JS ($X_{\text{aff}} = 4.10$, $F = 5.97$, $p < .01$). In addition, boundary spanners find that the affective archetype produces the least amount of RC ($X_{\text{aff}} = 2.31$, $F = 7.25$, $p < .001$) and RA ($X_{\text{aff}} = 2.06$, $F = 11.08$, $p < .001$).

In so far as commitment and performance are concerned, the three archetypes are equifinal ($F < 2.5$, $p > .1$). Thus, there are no significant differences across the three configurations on the commitment and performance of boundary spanners. Also, procedural and achievement archetypes are equifinal in regard to each role stressor and outcome examined ($F < 2$, $p > .05$).

Test of the Moderating Hypotheses

We estimated the role stress model of Figure 1 separately for each archetype through Multiple Group Latent Variable Structural Equations analysis. Several constrained models were estimated. These restrictions were *not* intended to re-specify the model to improve goodness of fit. Rather, they were intended to isolate differences in modeled relationships across the three archetypes.

Model fit analysis. The unconstrained model of Figure 1 yielded the following fit statistics: $\chi^2 = 180$, $df = 126$, $NFI = .93$, $CFI = .95$, $AIC = -71.5$, and $AOSR < .07$. Although the χ^2 statistic is significant, it is not necessarily an indicator of poor fit. This is because nonnormality and sample size are known to result in a biased χ^2 statistic that favors rejection of even models with good fit. In contrast, the various fit indices (e.g., NFI , CFI) provide a more unbiased indication of the goodness of fit. Because fit indices larger than .90 are usually suggestive of acceptable models, the unconstrained model appears to be a reasonable representation of data.

A constrained model that restricts all measurement parameters (i.e., factor loadings) as invariant across the three archetypes yielded fit statistics as follows: $\chi^2 = 202$, $df = 142$, $NFI = .92$, $CFI = .94$, $AIC = -81.4$, and $AOSR < .10$. Compared to the unconstrained model, the difference in χ^2 statistic is 22, with associated df of 16 ($p > .1$). Because this difference is nonsignificant, the constrained model is statistically equivalent to the unconstrained model. Due to its parsimony, as indicated by a lower AIC , the constrained measurement model was retained for further analysis.

Next, we constrained all structural parameters to be equal across the three archetypes. This model tests the moderating hypothesis. The fit statistics obtained for this model were as follows: $\chi^2 = 244$, $df = 165$, $NFI = .82$, $CFI = .93$, $AIC = -95.7$, and $AOSR > .10$. Compared to the unconstrained and constrained models, this model of no moderating effects yields a difference in the χ^2 statistic of 42 ($df = 23$, $p < .01$) and 64 ($df = 39$, $p < .01$), respectively, both of which are highly significant. This suggests that a no moderating effects model is rejected. Thus, as per the moderating hypothesis, the effects of role stressors on job outcomes differ significantly across the archetypes.

We tested additional models that constrained one or more structural parameters to be invariant across the three archetypes. Each constrained model was compared with the preceding models utilizing the χ^2 difference statistic. If this statistic was nonsignificant, the particular constraint was retained. This iterative process resulted in a final constrained model with the following fit statistics: $\chi^2 = 204$, $df = 152$, $NFI = .94$, $CFI = .95$, $AIC = -99.1$, and $AOSR < .10$. Compared to the constrained measurement model, this implies a difference in the χ^2 statistic of 2, with associated df of 10 ($p > .99$). Likewise, compared to the unconstrained model, the final model yields a difference in the χ^2 statistic of 24, with associated df of 26 ($p > .5$). Finally, compared to the fully constrained model, the final model yields a difference in the χ^2 statistic of 40, with associated df of 13 ($p < .001$). Although the final model is statistically equivalent to the constrained measurement and unconstrained models, it is significantly more parsimonious, as is evidenced by a lower value of AIC . In Tables 2 and 3, we summarize the relevant estimated parameters for the final model.

Estimated measurement parameters. Without exception, measurement parameters are substantively large and statistically significant (t -values from 7.2 to 33.1). For example, coefficients (i.e., loadings) for the two measures of RC are .68 ($t = 9.3$, $p < .001$) and .85 ($t = 14.2$, $p < .001$), respectively. Consistent with the significant factor loadings, the reliabilities of individual constructs range from .65 to .88. Finally, the indicators also show evidence of convergent and discriminant validity because they load only on their theoretical constructs, and cross-loadings are zero. Taken together, this is indicative of a well-specified measurement model, items that converge onto their *a priori* constructs, and constructs with significant systematic variance.

Estimated structural parameters. Unlike the measurement parameters, the estimated structural parameters depict an interesting pattern of differential relationships across the three archetypes (see Table 2). To provide a baseline for comparative analysis, we also include coefficients obtained from a no moderating effects model in the second column of Table 2. Thus, buffering (amplifying) effects will be substantiated if the negative (positive) effects are alleviated (enhanced) relative to the baseline coefficients. Moreover, we include a summary of total and indirect effects in Table 3. We discuss results for each dependent variable separately.

In terms of TI, six results are notable. First, the explanatory power of the role stress model is significantly higher for the procedural and achievement-oriented archetypes ($R^2 = .48$ and $.57$, respectively) than for an affective archetype ($R^2 = .23$). Second, relative to the baseline coefficient, the effect of JP on TI is buffered or reduced for affective and achievement configurations, but not so for the procedural archetype ($B = .35$). In other words, high performers have a higher propensity to leave when they believe they are operating in a procedural-oriented environment. Third, for the achievement archetype, though the direct effect of JP on TI is nonsignificant, note that in Table 3 this total effect is significant and negative ($B_{\text{tot}} = -.21$). Hence, high performers have a lower propensity to leave when they view their environment as achievement-oriented.

TABLE 2
Estimated Coefficients for the Nomological Relationships in the Role Stress Model^a

		Configural Archetypes						
		Baseline ^b	Procedural		Affective		Achievement	
Dependent Variable: TI								
R ^{2c}			.48		.23		.57	
JP → TI		.18	.35 (2.50)		.12 (1.11)		.12 (1.11)	
OC → TI		-.35	-.01 (-.51)		-.01 (-.51)		-.79 (-3.39)	
JS → TI		-.49	-.71 (-5.90)		-.52 (-4.23)		-.52 (-4.23)	
Dependent Variable: JP								
R ^{2c}			.14		.38		.04	
RA → JP		-.39	-.23 (-2.32)		-.53 (-4.16)		-.23 (-2.34)	
RC → JP		.12	.12 (1.86)		.12 (1.86)		.12 (1.86)	
Dependent Variable: OC								
R ^{2c}			.75		.65		.52	
JP → OC		.07	.03 (.43)		.03 (.44)		.42 (2.42)	
JS → OC		.56	.56 (6.39)		.56 (6.39)		.56 (6.39)	
Dependent Variable: JS								
R ^{2c}			.70		.55		.49	
RA → JS		-.56	-.63 (-6.60)		-.51 (-5.32)		-.51 (-5.32)	
RC → JS		-.09	.01 (.01)		-.23 (-2.54)		.01 (.01)	

^aSome of the nomological relationships were constrained to be equal across the three configurations of organizational practices. Coefficients in italics are statistically significant and differ significantly across the three configurations. Coefficients in bold are statistically significant but invariant across the three configurations. We provide unstandardized coefficients with T-value in parentheses. T-values greater than 1.645 indicate significant effects at $p = .05$ for a one-tailed test.

^bThis is the unstandardized coefficient corresponding to the no moderating effects model, which was obtained by constraining the structural parameters to be equal across the three configural archetypes. Significant coefficients are in bold.

^cThis is the total variance explained in the referent dependent variable based on the hypothesized model.

TABLE 3
Total and Indirect Effects of Hypothesized Independent Constructs on Each Dependent Constructs^a

	Baseline ^b	Configural Archetypes					
		Procedural		Affective		Achievement	
		Total	Indirect	Total	Indirect	Total	Indirect
Dependent Variable: TI							
JP → TI	.17	.35	.01	.12	0.0	-.21	-.33
OC → TI	-.35	-.01	—	.01	—	-.79	0.0
JS → TI	-.68	-.71	-.01	-.53	-.01	-.96	-.44
RA → TI	.32	.37	.37	.20	.20	.53	.53
RC → TI	.08	.04	.04	.14	.14	-.03	-.03
Dependent Variable: JP							
RA → JP	-.39	-.23	—	-.53	—	-.23	—
RC → JP	.12	.12	—	-.12	—	.12	—
Dependent Variable: OC							
JP → OC	.06	.03	—	.03	—	.42	—
JS → OC	.56	.56	—	.56	—	.56	—
RA → OC	-.33	-.36	-.36	-.30	-.30	-.38	-.38
RC → OC	-.04	.01	.01	-.13	-.13	.05	.05
Dependent Variable: JS							
RA → JS	-.55	-.63	—	-.51	—	-.51	—
RC → JS	-.09	.01	—	-.23	—	0.0	—

^aEffects in bold are statistically significant. The numbers in the Table are unstandardized total and indirect effect coefficients are based on the final model unless otherwise noted.

^bThis is the unstandardized total effect coefficient corresponding to the no moderating effects model, which was obtained by constraining the structural parameters to be equal across the three configural archetypes. Significant coefficients are in bold.

ed. Fourth, relative to the baseline, the effect of OC on TI is buffered for the achievement archetype ($B = -.79$), but its buffering effect diminishes to nonsignificance for procedural and affective archetypes. Thus, in achievement archetypes, higher levels of OC drastically reduce boundary spanners' intentions to leave the firm. Fifth, JS has consistent, significant, and negative effect on TI, irrespective of the archetype, though this buffering effect is magnified for the procedural archetype ($B_{pr} = -.71$). Because JS also affects TI through its effect on OC, the total effect of JS on TI is considerable and significant (B_{tot} ranges from $-.53$ to $-.96$; see Table 3). Boundary spanners' satisfaction with the job is the single most critical determinant of TI, especially for procedural and achievement archetypes. Sixth, though the direct effect of RA on TI is negligible, its total effect is significant, consistent, and positive (B_{tot} ranges from $.20$ to $.53$; see Table 3). Thus, when RA increases, it indirectly motivates boundary spanners to quit, notably in procedural- and achievement-oriented environments.

For JP, three notable inferences can be drawn from Table 2. First, the explanatory power of the role stress model is significantly larger for the affective configuration ($R^2 = .38$) than for the procedural- ($R^2 = .14$) or achievement-oriented environment ($R^2 = .04$). Second, relative to the baseline, the effect of RA is buffered for procedural and achievement archetypes ($B = -.23$), but not for the affective environment ($B_{aff} = -.53$). Hence, boundary spanners appear to be more vulnerable to the dysfunctional effects of RA in an affective environment. This contradicts our hypothesis that an affective environment is more favorable for the boundary spanner. Third, though RC has a consistent, positive influence on JP, this effect is marginal and not moderated by archetypes ($B_{aff} = B_{pr} = B_{ach} = .12$).

For OC, four results are noteworthy. First, high levels of explained variance are achieved especially for procedural and affective archetypes ($R^2_{pr} = .75$, $R^2_{aff} = .65$, $R^2_{ach} = .52$). Second, the positive effect of JP is highly amplified for the achievement archetype ($B_{ach} = .42$, cf. $B_{baseline} = .07$). In other words, high performers are more committed when they perceive that they are operating in an achievement-oriented environment. Third, JS has a significant and positive effect on OC, but this effect is unmoderated by organizational archetype ($B_{aff} = B_{pr} = B_{ach} = .56$). Thus, boundary spanners' commitment to their organization (OC) is directly affected by their satisfaction with the job (JS), irrespective of the organizational archetype. Fourth, though the direct effect of RA is negligible, the results in Table 3 reveal that RA has a significant negative influence on OC because of its effect on JS and JP. Consequently, with increasing RA in boundary spanning roles, commitment is likely to deteriorate irrespective of the organizational environment.

Finally, the results for JS also depict an interesting pattern. First, the role stress model yields high levels of explained variance ($R^2_{pr} = .70$, $R^2_{aff} = .55$, $R^2_{ach} = .49$). Second, the negative influence of RA appears to be somewhat buffered in affective and achievement archetypes but not in the procedural archetype ($B_{pr} = -.63$, cf. $B_{baseline} = -.56$). Third, the negative effect of RC is significantly amplified for the affective configuration ($B_{aff} = -.23$, cf. $B_{baseline} = -.09$);

therefore, boundary spanners' JS is vulnerable to role stressors—notably in an affective environment. In less favorable environments, satisfaction is more susceptible to RA.

Discussion

Several limitations of our work must be noted. Our findings are based on samples of boundary spanners from two MNCs located in the Netherlands. Although these MNCs were selected carefully to provide variability in situational characteristics, additional samples are needed to examine the validity of our findings and uncover other archetypes, if any. The configural archetypes obtained here should not be construed as a definitive typology of organizational environments; the generalizability of obtained archetypes is as yet unknown. Although we used five practices dimensions that were drawn from a body of research at the focal location (cf. Hofstede et al. 1990), more dimensions can be explored to capture both the internal and external environment facing boundary spanners. As a related issue, some practices dimensions evidenced less than desirable reliability, thus indicating the need for further developmental work. In addition, it would be useful to examine the relationship between dimensions of practices and job characteristics or other climate variables. Also, all our measures are based on pencil-and-paper self-reports so that the strength of the relationships may be inflated by common method variance. It is unlikely, however, that common method variance would cause the differential pattern of relationships obtained across the three configural archetypes, because method variance usually works against differential validity. Furthermore, we followed a data collection procedure—respondent anonymity and surveys mailed directly to researchers—that is likely to yield less biased responses. We used a simple role stress model that was based on a recent meta-analysis in marketing. Several enhancements to this model are plausible, especially the inclusion of burnout and coping mechanisms. Finally, additional work is needed to evaluate the pros and cons of the compositional approach to studying the organizational environment relative to the decompositional approach.

Nevertheless, our study provides new insights into the influence of organizational practices in boundary role stress processes and on psychological and behavioral outcomes of boundary spanners. Unlike prior research, which tended to use the decompositional approach and found that this influence is marginal and weak, our study indicates that organizational practices matter significantly. The strong influence appears to have been obfuscated by three gaps in the literature: (1) exclusive focus on proximal variables that relate to boundary spanners' immediate task environment, (2) an individual- rather than collective-level definition of organizational variables, and (3) inattention to the moderating effects of organizational practices. Our study takes the first step toward filling these gaps. Before discussing the key contribution of our work, we note that it is inappropriate to frame our research as an "exploratory" study of organizational practices and boundary role stress processes. Instead, in the tradition of interactional approaches (Terborg 1981), the appropriate frame is that this study (1) explores the distinct

collective situations facing boundary spanners in two firms, (2) proposes alternative overall hypotheses about the role of these situations on boundary role stress processes, and (3) tests these hypotheses using a role stress model drawn from a recently published meta-analysis. Note that to be situationally sensitive necessitates careful exploration of the organizational environment facing boundary spanners; yet, the configural approach holds promise in revealing situational typologies that have more than local generalizability.

The Organizational Environment Typology

Our study yields evidence concerning an alternative approach for conceptualizing and operationalizing the organizational environment. The alternative compositional approach considers the organizational environment as a finite set of options caused by the interdependencies among the practices dimensions. The study findings indicate that this approach is viable and yields three configural archetypes that constitute a meaningful organizational typology.

Five reasons attest to the viability of the findings. First, the obtained archetypes relate to prior research in meaningful ways, as they appear to capture differences that account for procedural-, affective-, and achievement-orientations of organizational environments. Such orientations have a long tradition of research in organizational psychology (cf. Ostroff 1993). Second, these archetypes are neither based on ad hoc aggregation rules (e.g., group or organizational levels) nor defined at the individual level. Rather, they are based on consensus among boundary spanners and are derived by using empirical clustering techniques. Joyce and Slocum (1984) note that such collective characterizations of the organization are likely to be more valid. Third, our results show that the three archetypes obtained evidence a high level of internal homogeneity and external discrimination (over 58% of the variance is captured by the three archetypes). Fourth, the use of configural archetypes allows the test of linear and equifinal effects as rival propositions. Because some equifinal effects are supported, configural archetypes yield insights not heretofore available from previous research. Fifth, unlike prior research, organizational environments construed as archetypes have a significant impact on the role stressors–job outcomes relationships and appear promising in explaining both the magnitude and direction (+ and –) of such relationships. We have enough evidence to suggest that configural archetypes are a reasonable and promising approach for uncovering organizational typologies and warrant the serious attention of future researchers.⁵

The Direct Effects

The effects of the organizational environment on boundary spanners' attitudes and job outcomes are significant. Unlike

achievement and procedural archetypes, an affective situation engenders significantly lower RC, RA, and TI, and higher JS. These effects are consistent with previous studies showing that organizations that are employee- and customer-oriented and foster an open and professional environment are perceived as less stressful and more satisfying. For the highly process-driven procedural, and highly results-oriented achievement archetypes, the effects on boundary spanners' attitudes and outcomes are identical. Hence, the procedural- and achievement-oriented archetypes are equifinal in so far as the boundary spanners' role stressors and job outcomes are concerned.

Our results show that performance and commitment are invariant to all three archetypes. Thus, for JP and OC, all three archetypes are equifinal. Although we expected employees to perform adequately regardless of the situation (or be terminated), that the OC levels are identical across archetypes needs explanation. Although we can only speculate, previous research has shown that higher levels of OC are associated with supervisory behaviors that are perceived as supportive but are weakly related or unrelated to organizational variables such as job formalization and initiation of structure (Ramaswami, Agarwal, and Bhargava 1993). Apparently, more immediate or proximal factors such as supervisor support lead to stronger feelings of obligation or commitment to the organization than do higher level or distal factors, including organizational practices.

Overall, our results reaffirm conventional wisdom that some environments are inherently favorable for boundary spanners. When comparing direct effects, an affective archetype appears to be clearly preferable when the organizational goal is to increase JS and reduce TI. As moderating results show, however, the equifinality results defy simple explanations and argue against linear generalizations of conventional wisdom. Evidently, reality is more complex than what direct hypotheses can capture.

The Moderating Effects

We discuss two critical sets of results from moderating analysis: (1) the influence of role stressors on job outcomes and (2) interrelationships among the job outcomes.

Influence of role stressors. The findings reveal a disparate pattern of effects for RC and RA. For RC, most of the effects are insignificant. The single exception is the effect of RC on JS for the affective archetype, which is significant and dysfunctional. This accords well with Brown and Peterson's (1993) meta-analytical finding of this effect as $-.29$. Our study clarifies that this dysfunctional effect is more likely when the situation is inherently more favorable for the boundary spanner. In other cases, the effects of RC are buffered.

For RA, the effects are mostly significant and substantive. Essentially, compared to other environments, RA's effect on JS is significantly more dysfunctional for a procedural environment, and its effect on JP is considerably more dysfunctional for the affective archetype. Moreover, whereas the dysfunctional effect of RA on JP is buffered for the procedural and achievement archetypes, the net effect is

⁵It should be recognized that, as collective characteristics, configural archetypes represent consensus in perceptual, not objective, organizational environments. Although perceptions likely mediate the effect of (objective) organizational environments on boundary role stress processes (Joyce and Slocum 1984), it appears fruitful to explore the relationships between objective and perceptual features of organizational environments so that concrete suggestions for managerial intervention can be provided.

significant and negative ($-.23$). This is consistent with Brown and Peterson's (1993) meta-analytical finding of this effect as $-.28$. Likewise, the net effect of RA on JS is significant and negative ($-.51$) and parallels Brown and Peterson's results ($-.33$). Finally, for total effects (cf. Table 3), it is apparent that RA has significant, dysfunctional effects on OC and TI: The former effects are equifinal; the latter show a wide variability from $.20$ (affective) to $.53$ (achievement).

The overall picture that emerges from these results indicates three patterns. First, as far as boundary spanners' job attitudes and outcomes are concerned, it is clear that the effects of RA are more potent and pervasive than RC. Apparently, boundary spanners find it easier to cope with conflicting directions than with inherent uncertainty in their role.

Second, even in environments that are inherently favorable for boundary personnel, an affective archetype fails to significantly buffer the effect of role stressors; rather, its dysfunctional effects tend to be amplified. We interpret this finding in the context of the role-environment discrepancy. In affective environments, boundary spanners expect to encounter low levels of role stressors. Hence, relative to their expectations, even moderate levels of RC and RA are likely to appear discrepant to the boundary spanners, which results in greater dysfunctional impact. In other situations, boundary spanners expect the environment to be stressful, and the discrepancy between expectations and role perceptions is likely to be smaller. Although we do not have direct empirical evidence to corroborate this discrepancy explanation, the results in Table 1 appear to support this possibility, because boundary spanners report lower levels of role stressors for affective archetype.

Third, our findings reveal some evidence of the functional effects of role stressors. Consistent with some previous findings, our results show that, though the effects of role stressors are mostly dysfunctional, the effect of RC on JP is consistently positive and functional.⁶

Interrelationships among job outcomes. Because JS and JP are the key job outcomes that influence OC and TI, we focus on the effects of these outcomes. For JS, our results reveal that its effects are significantly positive for OC and negative for TI. Moreover, the former effects are uniform across the three archetypes, whereas the latter vary considerably from $-.53$ (affective) to $-.96$ (achievement) (see Table 3). It appears that JS helps build boundary spanners' commitment to the organization and, at the same time, diminishes their TI, which are notably potent for the procedural and achievement archetypes.

The most intriguing effects, however, involve JP. Three aspects are notable. First, JP plays little role in an affective-oriented organization, as none of the effects is significant. Thus, high or low performers are neither more committed nor less likely to leave an affective organization. Second, JP

has a significant and positive effect on TI in the procedural archetype: High performers are more likely to leave procedural environments. Third, in an achievement archetype, JP has a significant positive effect on OC and a negative effect on TI (see Table 3). Therefore, high performing boundary spanners appear to thrive in an achievement-oriented environment, thus resulting in higher OC and lower TI.

Together, our results present an interesting yet complex pattern of moderating effects. For the affective archetype, the pattern is consistent with prior research. High JS reduces TI. The effects of performance on other job outcomes are not significant; therefore, satisfied employees are less likely to leave. In addition, performance acts as a terminal value (no effects in accord with Brown and Peterson 1993). Presumably both high and low performers have lower TI when they perceive that organizational practices are open and employee-oriented. This accords well with Sheridan's (1992, p. 1052) observation that "strong and weak performers stayed much longer in the organizational culture emphasizing interpersonal relationships than in the work task culture.... [The] explanation of employee retention may simply be that an organization emphasizing interpersonal relationship values is uniformly more attractive to professionals than a culture emphasizing work task values."

The procedural and achievement archetypes yield a contrasting pattern of effects. In the procedural setting, high JP increases TI and is unrelated to OC. In an achievement archetype, high JP reduces TI and increases OC. Hence, JP has significant instrumental value in procedural and achievement archetypes, but its effects on TI are diametrically opposite. One plausible reason for this unexpected finding stems from path-goal theory. Presumably, an achievement archetype presents clear goals to boundary spanners (due to the results focus), and the links between rewards and goal attainment are transparent. The clarity of goals, supported by an unambiguous reward structure, is likely beneficial as it builds OC and retains the high performers. In other environments, the goals may be less clear and/or the rewards may not be tied directly to JP because they focus either on multiple goals or outcomes (e.g., affective) or pay little attention to outcomes (e.g., procedural) such that JP either has terminal value only or is instrumental in driving out high performers. This suggests that managers should resist efforts to focus too much on how things are done (e.g., processes) at the expense of what gets done (e.g., results). Instead, the strategy of choice may be to emphasize a few focused goals and consider rewards that are directly tied to performance.

Conclusions and Managerial Implications

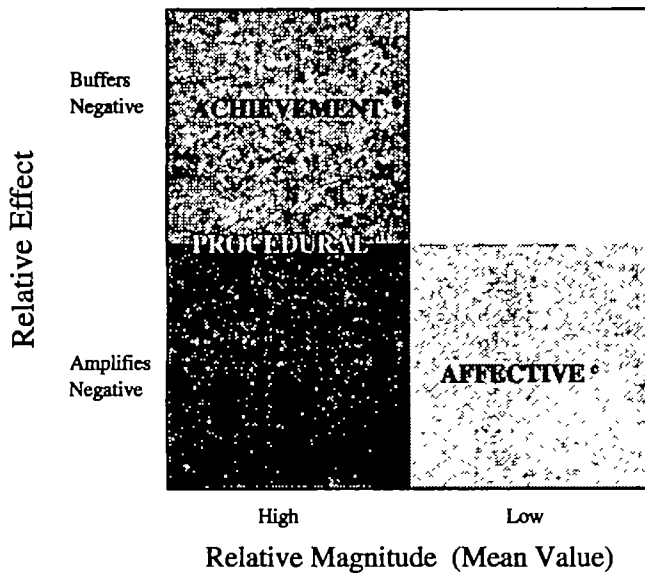
We establish that organizational practices matter in boundary role stress processes. Significantly, these influence patterns are not intuitively obvious, nor do they follow simple axioms of managerial practice. Instead, our results support an intricate pattern of nonlinear, equifinal, and counteracting effects. In Figure 3, we sum up the key findings. For clarity, we show a 2×2 table with columns as the relative magnitude or mean levels based on the direct hypotheses and rows as the relative effects based on the moderating hypotheses.

⁶Many reasons have been advanced to explain the functional effects of RC on JP. Behrman and Perreault (1984) suggest a rationale based on coping, whereas Singh and colleagues (1994) use an empowering argument, noting that moderate amounts of RC may provide an opportunity to exercise discretion. A reviewer suggested that this could also be due to some unmeasured, common antecedents.

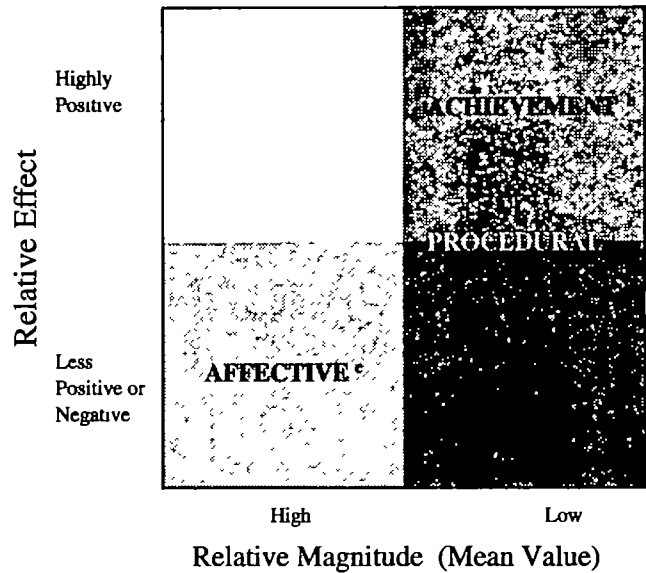
FIGURE 3

Summary of Key Findings from Direct and Moderating Effects Across the Three Configurational Archetypes^a

A. Effects of Role Conflict and Role Ambiguity on Job Satisfaction and Performance



B. Effects of Job Satisfaction and Job Performance on Organizational Commitment and Turnover Intentions



^aThe cells are shaded so that increasing darkness indicates decreasing functional effects for boundary spanners.

^bAn Achievement archetype is highly focused on the job (instead of the employee), maintains a high level of results orientation (instead of process), and operates with less open and somewhat parochial practices.

^cAn Affective archetype is characterized by high levels of open communication, professional attitude, employee focus, and customer orientation.

^dA Procedural archetype is highly focused on processes, is moderately open, and is relatively less professional and customer-oriented.

In Figure 3A, environments are categorized on the basis of whether the mean levels of RC and RA (magnitude) are high or low and whether the negative effects of RC and RA on JS and JP are substantially buffered or amplified (effects). For example, the affective archetype is categorized in the low magnitude–amplify negative cell because it is associated with low mean values of RC and RA (cf. Table 1), and the negative effect of RA on JS is strongly amplified relative to other archetypes. In Figure 3B, the three archetypes are categorized on the basis of whether the mean values of JP and JS (magnitude) are high or low and on whether the effects of JP and JS on OC and TI are highly positive or less positive (effects).

Overall, Figure 3 suggests that organizational environments involve complex trade-offs between positive and negative consequences. For instance, though an affective situation results in lower levels of perceived role stressors (cf. Table 1), it comes with relatively high negative consequences for job outcomes. Evidently, organizational practices that are perceived as open, professional, employee-oriented, and customer-oriented tend to result in lower role stress, but the negative effect of role stressors on JP and JS is substantially amplified relative to other archetypes. Thus, the anticipated benefits of an affective environment (lower RC or RA) must be weighed against the possible decreases in JP and JS as a result of corresponding increases in role stress levels. In contrast, the results-focused achievement archetype is categorized as high magnitude–buffer negative because it is associated with high magnitudes of RC and RA and strongly buffered or diminished negative effects of RA

on JP (cf. Tables 1 and 2). Unfortunately this buffering effect is absent for other relationships involving RC and RA. Nevertheless, an achievement orientation requires trade-offs between employees exposed to high levels of RC and RA, but with lower dysfunctional effects on their current JP. The process-oriented procedural archetype is classified as high magnitude–amplify/buffer negative because, while it is associated with high levels of RC and RA, it involves one buffering (RA → JP) and one amplifying effect (RA → JS). Hence, this archetype straddles the two effects cells.

Figure 3B reveals that an affective archetype corresponds to high levels of JS and JP for boundary spanners (cf. Table 1); yet, these outcomes have relatively less positive effects on OC and TI. In fact, only JS is significantly associated with OC and TI (cf. Table 2). Hence, the affective archetype is categorized as high magnitude–less positive. A contrasting view is presented by the achievement archetype, which is associated with lower levels of JS but yields highly positive or functional effects of JP and JS on OC and TI (cf. Table 2) and therefore is low magnitude–highly positive. In this environment, JS levels are lower, but increases in JS and JP directly lead to more committed boundary personnel who are less likely to leave. Hence, an achievement orientation presents an intriguing alternative to an affective environment, as the latter is less stressful, more satisfying, and equally productive, but appears to lack the motivating spark (less challenging job—indicated by low levels of role stress) that underlies the functional effects visible in the former. Again, the procedural archetype falls in the middle of the effects cells because it involves one highly positive (JS → TI;

highly satisfied employees are more likely to stay) and one highly negative effect (JP → TI; high performers are less likely to stay). Moreover, the procedural archetype is associated with lower levels of JS. Thus, a procedural situation appears distinctively unattractive.

The overall view that emerges is that, though some environments are clearly dysfunctional (e.g., procedural), other configural archetypes may involve distinct trade-offs, because none is clearly superior. This view resonates with Weitz's (1981) belief that the search for "simple and sovereign" relationships that hold across a great variety of contexts is ill conceived. Furthermore, a comparison between the affective and achievement results suggest that it would be ill advised to target intervention programs that aim to purge jobs of RC and RA. Our results support Leigh, Lucas, and Woodman's (1988, p. 56) assertion that,

Role stress need not be construed as a failure of organizational communication or leadership (as suggested by Rizzo et al. 1970), but rather as vehicles the organization can use to provide its employees with the discretion to respond to a dynamic work environment. Organizations that attempt to purge conflict and ambiguity from the various positions may find jobs that are too limiting have been created.

We have enough evidence to suggest that future researchers studying role stress should avoid a myopic focus on individual processes and instead should focus simultaneously on individual- and organizational-level variables. We caution that our sampling of organizational environments is

limited by pragmatic considerations, and further research may uncover archetypes that fall into the empty cells of Figure 3. The search for archetypes that are associated with lower magnitudes of role stressors *and* relatively strong buffering effects, and/or high levels of JP or JS *and* relatively high positive effects remains an agenda for additional research. Our framework permits possibilities that yield unequivocal positive outcomes for the person and organization alike. We urge managers and researchers to seek and characterize such possibilities for the common good of the firm and its participants.

Nevertheless, our results suggest that the dynamics of the relationship between boundary role stressors and job outcomes are such that they require managers to grapple with complex trade-offs when considering appropriate practices of their organization. Organizational practices are important strategic choices that send powerful signals to employees and, consequently, must be based on critical analysis (e.g., goals, externalities, employee profile) and cautioned reason (e.g., pros and cons). More important, obvious choices of organizational practices based on the "more is better" dictum (e.g., employee-oriented, open) fail to grasp the underlying trade-offs. Our findings assert extreme caution at a time when the popular press appears to promote uncritical and exaggerated claims of faddish practices, such as "customer comes second" (Rosenbluth and Peters 1992) and "control from the bottom up" (Kelly 1994) in hopes of increasing boundary spanner performance and psychological well-being.

APPENDIX A

Key Dimensions of Organizational Practices Used In the Empirical Study

Dimension/Continuum	Conceptual Definition
Closed–Open	Open practices are characterized by an informal style of working, multiple and easy communication channels, and short socialization periods. In contrast, closed practices are reflected in a formal operational style, hierarchical communication channels, and long socialization periods. Typical item: "Where I work, people have an informal style of dealing with each other."
Parochial–Professional	Professional practices are defined by a high level of work ethic, seriousness of purpose in daily events, and a high level of trust and cooperation. Parochial practices are characterized by non-ability factors in recognition and reward, casual approach to daily events on the job, and personal preferences determining cooperation behaviors. Typical item: "People always speak seriously of the organization and job."
Job–Employee	Employee-oriented practices are defined by a high level of interest in employee development and personal concerns and problems of individual employees. In contrast, job-oriented practices involve a high level of focus on the jobs people perform and on problems and concerns involving job performance. Typical item: "The organization is only interested in the work that people do."
Results–Process	Process-oriented practices lay heavy emphasis on how things are accomplished within an organization. In contrast, results-oriented practices are characterized by a focus on the end-product. This parallels the means-end distinction. Typical item: "The company is more concerned with how we do things than that things get done."
Internal–Customer	Customer-oriented practices place the customer as the focal point of all their decisions and daily events. Internal-oriented practices place internal criteria—such as profitability and process efficiency—as the primary focal point for all decisions and daily events. Typical item: "The major emphasis is on meeting customer needs."

APPENDIX B

Scale Items Used for Various Measures of the Study

Role Stressors

Role Conflict ($\bar{X} = 2.54$; $\hat{\sigma} = .75$; $\alpha = .74$)

- I receive an assignment without the manpower to complete it.
- I receive incompatible requests from two or more people.
- I work with two or more departments who operate quite differently.

Role Ambiguity ($\bar{X} = 2.30$; $\hat{\sigma} = .66$; $\alpha = .71$)

- Clear planned goals/objectives exist for my job.^a
- I know exactly what is expected of me.^a
- I know how my performance is going to be evaluated.^a

Job Outcomes

Job Satisfaction ($\bar{X} = 3.93$; $\hat{\sigma} = .57$; $\alpha = .81$)

- My job is very pleasant.
- My job is very worthwhile.
- My job is better than most.
- I sometimes feel my job is a waste of time.^a
- I am very content with my job.
- This job is worse than most.^a

Job Performance ($\bar{X} = 3.90$; $\hat{\sigma} = .54$; $\alpha = .80$)

- How would you rate yourself in terms of the *quantity* of work (e.g., sales) you achieve?

How do you rate yourself in terms of your *ability* to reach your goals?

How do you rate yourself in terms of your *performance potential* among coworkers in your company?

How do you rate yourself in terms of *quality* of your performance in regard to customer relations?

How do you rate yourself in terms of *quality* of your performance in regard to management of time, planning ability, and management of expenses?

How do you rate yourself in terms of *quality* of your performance in regard to knowledge of your products, company, competitors' products, and customer needs?

Organizational Commitment ($\bar{X} = 3.74$; $\hat{\sigma} = .67$; $\alpha = .65$)

- I really care about the fate of this organization.
- I am willing to put in a great deal of effort beyond what normally is expected in order to help this organization be successful.
- This organization really inspires me to put forth my best effort.

Turnover Intentions ($\bar{X} = 1.99$; $\hat{\sigma} = .91$; $\alpha = .88$)

- It is likely that I will actively look for a new job next year.
- I often think about quitting.
- I will probably look for a new job next year.

^aThis item was reverse scored.

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Aggressive and Predatory Pricing: A Framework for Analysis

The authors examine competitive interaction in the context of aggressive pricing strategies. Although aggressive pricing by one firm may initially provide lower prices to consumers, the behavior also can be predatory and ultimately result in undesirable welfare consequences. To date, public policy analysis of such behavior has relied on traditional economic theory, with State and Federal policies creating conflicting guidelines for managers. The authors offer a framework for understanding aggressive and predatory pricing that incorporates research from marketing and related disciplines as well as traditional and newer streams of economic analysis. Distinguishing features of the framework include a broader delineation of indicators that potentially predatory behavior might have occurred, an expanded view of the possible motivations for aggressive and predatory pricing behavior that are not admitted into current analyses, and a more comprehensive analysis of competitors' strategic responses to such pricing and the varying consequences of these responses. They further argue that the field of marketing is uniquely positioned to provide the kind of comprehensive measurement and modeling contributions needed to create policy guidelines that can be implemented in this area.

In recent years theorists in marketing, economics, and strategic planning have begun to examine competitive strategies—actions directed toward influencing the behavior of rival firms and encompassing competitive moves and countermoves between firms (cf. Porter 1980; Weitz 1985). Within marketing, much of this research has focused on measuring the type and intensity of firms' reactions to the strategic moves of rivals (cf. Chen and Miller 1994; Gatignon 1984; Gatignon, Anderson, and Helsen 1989; Hanssens 1980). Recently, marketers have begun to examine firms' reactions to competitors' signals regarding future actions (cf. Heil and Robertson 1991; Heil and Walters 1992; Moore 1992; Robertson, Eliashberg, and Rymon 1995).

Often, researchers focus on actions or signals that represent significant departures from competitive norms, for example, deep price cuts or large increases in advertising. Such actions may be termed *aggressive* if they are motivated by the desire to force rivals to react by taking actions that significantly impair the rivals' performance or competitive viability. When these actions lead to a reduction in competition and undermine consumer welfare, they may be considered *predatory*. As Sullivan (1977, p. 111) observes, in contrast to the aggressive competitor,

the predator seeks not to win the field by greater efficiency, better services, or lower prices reflective of cost savings or modest profits. The predatory firm tries to inhibit

others in ways independent of the predator's own ability to perform effectively in the market. Its [conduct] is calculated to impose losses on other firms, not to garner gains for itself.

Predatory pricing is the best known form of predatory behavior. It involves lowering prices to an unreasonably low (usually below-cost) or unprofitable level in a market in an effort to weaken, eliminate, or block the entry of a rival. While capturing the attention of law and economics scholars and the concern of policy makers, predation and predatory pricing has only recently begun to be addressed by marketers. For example, Gundlach (1990) surveys the nature, regulatory framework, and alternative rules for the various forms of predation, including both price and nonprice strategies. More recently, both Sheffet (1994) and Gundlach (1995) examine key Supreme Court decisions that address predatory pricing and the emergence of alternative economic explanations based on asymmetries of information for understanding such actions. In a related work, Heil and Langvardt (1994) focus on the implications of this research for antitrust in general, including predatory pricing.

We combine the previous contributions with insights developed by researchers in marketing and related disciplines to offer a more expansive critique of the theoretical foundations of current thinking and public policy toward predatory pricing. We offer a framework for understanding predation within the context of aggressive pricing. As in the recent economic scholarship cited in studies by Gundlach (1995), Sheffet (1994), and Heil and Langvardt (1994), in our framework, we view aggressive and predatory pricing in the light of dynamic competitive strategy. However, we extend that thinking to show how the specific situational opportunities, marketing strategies, and strategic orientations of individual businesses may condition competitive responses to a given aggressive pricing scenario. In turn, we show the

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varying consequences of these competitive interactions for consumer welfare.

Background

The primary objective of public policy that addresses competitive interaction is distinguishing those strategies that are anticompetitive from those that simply involve aggressive competition and are procompetitive (Scherer 1976). As can be surmised, this task is extremely difficult when price is involved. As stated by the Supreme Court,

[T]he mechanism by which a firm engages in predatory pricing—lowering prices—is the same mechanism by which a firm stimulates competition; because ‘cutting prices in order to increase business often is the very essence of competition ...[:] mistaken inferences ... are especially costly, because they chill the very conduct the antitrust laws are designed to protect (*Brooke Group v. Brown & Williamson Tobacco Corporation* 1993, p. 4699).

The Marlboro example (see Appendix A) illustrates the complexity of understanding and distinguishing predatory pricing. As we discuss subsequently, depending on the perspective taken, Philip Morris' price cuts on its Marlboro brand cigarettes may be viewed as simply aggressive price competition or alternately as a basis for achieving anticompetitive goals through predatory pricing. The difficulty of judging the welfare implications of such actions highlights the challenge facing policymakers.

Public Policy

Current policy assessments of predatory pricing rely on the narrow behavioral assumptions of neoclassical price theory. This body of thought envisions a model of economic behavior in which parties are assumed to be motivated exclusively by profit maximization, to possess perfect information, and to act calculatedly rational in their decisions.

Federal. According to the federal view, predatory pricing is considered “rarely tried and even more rarely successful” (*Matsushita Electric Industrial Company v. Zenith Radio Corporation* 1986, p. 589). This skepticism is due to the presumed irrationality of a firm pricing at predatory levels to maximize profits. Assuming a perfectly competitive environment, a firm engaging in such conduct would incur such severe short-term losses in its attempt at disadvantaging rivals that it would not rationally consider such a strategy. Even were the firm to engage in such conduct and successfully eliminate rivals, to be profitable, the predating firm would need to recover losses through raising prices later to supracompetitive (i.e., above normal competitive) levels. In an environment of complete information, prices at such levels would attract new competitors (hoping to obtain surplus profits), thereby reducing the firm's chances of recouping its losses. Realizing this, the firm would calculate the probability of recovering lost profits to be low and avoid such conduct.

Policy embracing this view has developed in the Courts

and federal antitrust agencies.¹ In *Brooke Group Limited v. Brown & Williamson Tobacco Corporation* (1993, pp. 4702–703), the Supreme Court established a two-pronged framework for analyzing predatory pricing claims:

First, a plaintiff ... must prove that the prices complained of are below an appropriate measure of its rival's costs ... second ... is a demonstration that the competitor has a reasonable prospect [under Section 2a of the Robinson-Patman Act], or under Section 2 of the Sherman Act, a dangerous probability, of recouping its investment in below-cost prices.

For the first element, the cost measure normally applied is average variable cost; a surrogate for marginal cost (Areeda and Turner 1975). Pricing below this level is presumed to be irrational for the profit-maximizing firm and therefore considered to infer predation. Above-cost pricing is almost always deemed procompetitive. Applying this standard to Marlboro, the above-cost price cuts of Philip Morris would not be considered predatory. For the second element, because predation requires recovery of lost profits, recoupment also is essential. It involves the determination that there is a “reasonable expectation” or “dangerous probability,” given market circumstances, of recovering losses through supracompetitive prices. The absence of conditions favoring recoupment presents a situation in which it is difficult for the firm to achieve the (presumed) aims of predation. In the event that both below-cost pricing and recoupment are found, the welfare effects of such conduct are considered anticompetitive. Supracompetitive pricing is thought to lower consumer welfare through reducing *allocative efficiency*, or the efficient allocation of resources across society.

State. In contrast to federal skepticism, state courts have taken a more aggressive stance toward predatory pricing by adopting the single element of below-cost pricing as prima facie evidence of anticompetitive injury. Many states have “sales below cost” statutes or minimum markup laws (for a review of these laws, see Haynes 1988). Although the definition of *below cost* varies by state, the majority define it as average total cost, with others employing criterion similar to average total cost or average variable cost (Jordan 1995). Generally, each state requires that a price be set below cost for the purpose of injuring competition. Purpose itself, may be inferred from the below-cost price or through other means.

Juxtaposed against federal policy, the state view is characteristic of a more traditional industrial-organization perspective of antitrust—it focuses on industry concentration and as a consequence is adverse to large-scale firms. The loss of small competitors is an important consideration at the state level. State and federal standards differ primarily in that

¹Both the Federal Trade Commission and the Justice Department have espoused similar policy perspectives toward predatory pricing (Rule 1988). A statement by then Federal Trade Commissioner Oliver (Antitrust & Trade Regulation Report 1987, p. 340) summarizes this view: “[T]he Supreme Court has said, correctly we think, that predatory pricing is rarely tried and rarely successful.” Few cases alleging this practice have been brought by either agency in recent years.

the state approach does not explicitly address recoupment, yet holds greater expectations that below-cost pricing by large firms will successfully achieve the aims of predation.

Managerial and Public Policy Issues

Pragmatically, the presence of different federal and state approaches underscores the importance of developing a more broadly accepted understanding of aggressive and predatory pricing. Separate standards increase the managerial uncertainty and costs of pricing decisions for firms through elevating their compliance burden. The noncomplementary nature of the theoretical views informing these standards further magnifies this burden. Managerial efficiency favors a unified perspective and approach for public policy assessment of predatory pricing.

At a more fundamental level, examination of the key theoretical assumptions that inform the federal and state approaches raises substantive questions as to whether these postulates appropriately reflect competitive and managerial behavior in today's complex and evolving business environment. For example,

1. Is it correct to assume that organizations are motivated exclusively by profit-maximization goals in determining price, or are other goals important in their decision making?
2. Do firms indeed possess complete information as a basis for making such decisions?
3. Are the decisions made always calculatedly rational in the traditional economic sense?
4. Finally, should the welfare of consumers be judged solely on the basis of allocative efficiency, or are other determinants important in assessing consumer welfare?

The restrictive nature of these assumptions raises theoretical concerns for using them as a basis on which to establish public policy.

In the quest for a more comprehensive and unified understanding of aggressive and predatory pricing that is unencumbered by the restrictive assumptions of neoclassical price theory, we argue that current policy could benefit from insights regarding competitive interaction and strategic decision making developed in marketing and its related fields. In the following sections, these insights are reviewed and their potential contribution examined. Applying these insights, we develop a marketing-based framework for analyzing aggressive and predatory pricing behavior. We then discuss the potential implications for application of such a framework to public policy, academic research, and marketing practice.

Insights from Marketing and Related Disciplines on Competitive Pricing Behavior

For analyzing predatory pricing, the federal model, as informed by traditional economic thinking, essentially seeks to determine whether

1. A firm is pricing below some measure of cost (e.g., sacrificing current profits);
2. The basis of such a price strategy is predicated on the rational calculation that losses incurred may be later recouped

through increased prices (e.g., does it make economic sense that foregone profits may be recovered through later price increases?);

3. Competitors would likely respond by exiting the market, reducing output, or deciding not to enter (e.g., will the pricing strategy injure relevant competitors?); and
4. Given such an outcome, if consumers will be injured through later price increases on the part of the predator (e.g., will there be injury to consumer welfare?).

These determinations are made against the backdrop of stringent assumptions, including competitors possessing complete information, being motivated exclusively by profit maximization, operating within market conditions that generally mitigate market power, and being completely rational in their decision making, as well as injury to consumers occurring only through supracompetitive pricing. Put another way, the Supreme Court is pursuing a theory of predatory pricing that abides by the basic tenets of "economic reason" as constructed from the assumptions and logic that underlie neoclassical price theory (cf. Jordan 1995).

The expectation that any theory of predation should make sense or be based on economic reason is certainly a desirable attribute underlying any public policy. But, as researchers in both economics and marketing continue to examine business decision making from a dynamic, strategic perspective, the more apparent it becomes that the assumptions that underlie the current thinking may be insufficient for explaining aggressive and predatory pricing in today's competitive environments. In short, for explaining such conduct, a less restrictive understanding of competitive interaction and managerial decision making may be required. In this respect, researchers in marketing and its related disciplines are currently developing insights on how managers set pricing goals, the various ways in which price competition affects profitability and consumer choice, and how managers deal with the dynamics of the marketplace and imperfect information in arriving at price decisions. In Table 1, we summarize how these insights differ from the assumptions and thinking of the traditional economic perspective. In the following sections, we discuss the implications of such thinking for understanding predatory pricing.

Motivations Underlying Predatory Conduct

A key assumption underlying the economic perspectives of predatory pricing is that managers act to maximize profits through their price decisions. That is, their pricing decisions are driven by the singular goal to maximize profits. The traditional view is that managers would find it difficult to maximize profits in a perfectly competitive market through first incurring losses from pricing below cost and then attempting to recoup these losses later. This logic yields the view that predatory pricing rarely occurs or is rarely successful. It also underlies the recent Supreme Court standard, which now requires evidence of recoupment.

Nonprofit maximizing goals in pricing. Evidence from marketing and other disciplines has historically questioned the assumption of profit maximization as the exclusive motive for managerial decision making. There is general acceptance that managers often settle for satisfactory levels of

TABLE 1
Contrasting Perspectives Toward Predatory Pricing

Perspective	Traditional, Economics-Oriented	Emerging, Marketing-Oriented
Conditions fostering predation	•Firm behavior is a function of industry structure; structural forces set conditions for predation	•Firm behavior is strategic, industry structure is important, but additional opportunities arise from differences in product or corporate goals, segment cross-elasticities, or informational asymmetries
Motives for aggressive pricing	•Purpose of predatory pricing is to defend or maintain market power to maximize profitability	•Multiple purposes exist, especially volume-related
Evidence of potential predation	•Only below-cost prices can be predatory	•Prices need not be below cost to be predatory
Managerial information	•Managers possess "perfect" information and can calculate payoffs	•Managers possess incomplete and asymmetric information but only make "procedurally" rational evaluations of outcomes
Managers' risk attitudes	•Managers are risk-neutral or risk-averse	•Managers are risk-averse on gains; "risk-affinitive" on losses
Conjectures about competitors	•Managers predict competitors' actions from industry structure	•Managers rely on signals and history, conjecture imperfectly, and often do not understand competitors' payoffs
Recoupment assumptions	•Recoupment requires gains in market power and is unlikely	•Recoupment is frequently hard to predict, but the impact on competitive capabilities is predictable
Consumer welfare criteria	•Consumer welfare is defined as allocative efficiency and may be determined by changes in industry price or quantity of output	•Consumer welfare effects also include impact on quality, innovation, and satisfaction

outcomes rather than optimal levels (cf. Baumol 1967; Simon 1979). Recent research indicates that managers are motivated by a variety of other considerations in their pricing decision making. In the context of predatory pricing, Stelzer (1987, p. 5), for example, suggests that managers often may make decisions (including below-cost pricing) for reasons known only to themselves: "In short, predation [below-cost pricing] may not maximize profits. But it may nevertheless be a rational, far from unthinkable policy for business managers seeking to maximize their own career opportunities." In particular, below-cost pricing can result in dramatic changes in market share, which, if employed as a criteria for evaluating managerial performance, may motivate some business managers to engage in such pricing decisions for nonpredatory reasons.

In the context of marketing, a variety of motivations for below-cost pricing which are not oriented toward profit maximization have been identified. In particular, motivations for below-cost pricing often stem from strategic objectives that focus on volume sales. For example, Urbany and Dickson (1994) provide empirical evidence on the preference for volume-oriented pricing over profit-oriented pricing.

In an experimental setting, they found that decision makers in manufacturing firms favored a price strategy that was volume-oriented and considered customers as long-term assets. The Marlboro example generally reflects this orientation. Philip Morris appears to have been willing to risk its immediate profit goals in an attempt to bolster volume-related objectives. Volume-oriented strategies emphasizing customer retention and "customer lifetime value" are increasingly pervasive among marketing managers today. The development of database marketing techniques enables managers to target deep discounts toward their most valued customers (cf. Blattberg and Deighton 1991). Because these discounts are linked to cumulative quantity purchases, they can effectively preempt competitors from that part of the firm's customer base.

Pricing that is designed to achieve long-term customer satisfaction or other volume-oriented objectives can be characterized as profit-oriented, because short-term profits may be traded for long-term gains. However, under such logic the long-term payback, or recoupment period, may be difficult to calculate precisely, and the profit nature of such gains may be difficult to identify clearly. For this to occur, man-

agers must be able to project when "normal" prices will return so as to provide such payback returns. But in many industries, particularly in high fixed-cost markets (e.g., airlines), in which volume-oriented pricing practices are often employed, aggressive pricing can easily lead to long periods of depressed prices that frustrate such projections. Furthermore, the ability to project repeat business or other long-term gains from customers whose loyalty has been purchased by abnormally low prices is tenuous. So even if managers think aggressive, volume-oriented pricing is profit-based (i.e., likely to lead to profit-maximizing outcomes), the difficulty of identifying the recovery period and nature of returns makes such a determination extremely difficult.

Finally, economists might argue that if managers were indeed maximizing something other than profits, then more efficient firms would drive these irrational firms out of business. However, firms that attempt to maximize volume may well enjoy adequate profits to remain viable. Or, firms may be able to rely on a stable of other profitable products and divisions to remain profitable. Moreover, if competitors are truly injured by aggressive volume pricing, they may not be in a position to retaliate and drive inefficient firms from the market.

The implication of finding that managers may be driven by motives other than profit maximization for current public policy toward predatory pricing is to raise questions regarding the basic logic that underlies evidentiary requirements of legal inquiries at the state (below-cost pricing) and federal (below-cost pricing and recoupment) levels. If managers can be viewed as rationally engaging in nonprofit-maximizing strategies that result in below-cost pricing for nonpredatory reasons, any standard that relies on a finding of the same or relies on it for its basis (i.e., recoupment) must be viewed as indeterminate for identifying anticompetitive predation.

Conditions Influencing Predation

Traditional economic thought maintains that predation is only feasible if certain market conditions hold (cf. Isaac and Smith 1985; Scherer 1976). These conditions inure to the predator the requisite market power (i.e., power to control price) and therefore the ability to recoup lost profits that attend a predatory pricing episode. Some conditions provide predators with the ability to drive out competitors in a price war and thus enhance market power. To the extent that a predator's only competitors are small, fringe suppliers and that the predator has superior financial resources (i.e., "deep pockets") from which to draw, the likelihood of outlasting competitors is enhanced. Often these deep pockets are available through using profits in one business unit to subsidize another. Another set of conditions are those that keep a predator's potential losses from low prices below those of its rivals. If a predator has a lower cost structure or a lower cost of capital than a competitor, then the losses incurred at below-cost pricing are larger for the targeted rival. Similarly, a predator that enjoys a price premium normally has a larger unit profit margin and thus in a price war enjoys the advantage of lesser absolute losses per unit.

Although the assumption of a perfectly competitive mar-

ket, which underlies traditional economic theory, presumes these conditions are unlikely to occur, current policy perspectives that adopt this view admit such circumstances do arise. In this context, the large retailer seems to be an excellent model of a predator capable of recouping lost profits from below-cost pricing. Such firms have size advantages that yield lower costs of goods sold and other scale economies, they have multiple stores in multiple markets to enable cross-subsidization, and much of their competition is from small (fringe) stores. Thus, even under current policy, the potential that predation may occur under certain conditions appears to be, at least, accepted.

Additional influences. An important issue, however, is whether these traditional structural indicators of market power are sufficiently inclusive and therefore instructive for predicting conditions favorable toward predatory pricing. Recent models in economics have admitted informational asymmetry to the conditions that may facilitate predation. The presence of informational asymmetries permits a firm to induce rivals to act in such a way (e.g., exit a market, set a price, determine output) as to result in a predatory outcome (cf. Ordover and Saloner 1989).

The so-called market signaling models are predicated on the notion that rival firms' reactions to a verbal statement (e.g., an announced plan to change price) or an action (e.g., an actual price change) are based on that firm's inferences about the motives and intentions of the acting firm. Thus, one firm may interpret a rival's price cut as a signal that the rival has superior knowledge of falling demand or has a cost advantage. This perception may cause the firm to reduce output or exit the market and thus enable the predator to recoup initial losses. Note that below-cost pricing is not necessary to achieve predation in these cases. A firm need only convince the prey that the predator's cost function will allow it to set prices that will make it difficult for the prey to recover long-term average costs (cf. Milgrom and Roberts 1990).

Reputational models portray situations in which asymmetries of information exist about the payoff function of rivals. By using aggressive pricing in some markets, a firm may convince rivals that it is irrational (i.e., accepts short-term losses willingly), so they should anticipate similar behavior in future markets (see Weigelt and Camerer 1988). McCall (1987) notes that predatory reputation may enable a firm to discipline incumbent rivals to follow a particular pricing system or other tacitly agreed to policy (e.g., price fixing).

More extensive discussions of these models and their application to marketing thought are available in studies by Gundlach (1995), Heil and Langvardt (1994), and Moorthy (1985). For some industries, the extent to which firms can retain informational advantages envisioned under these models seems limited if only because of the vested interests of nonpartisan information gatherers in the financial community. In the context of the tobacco industry (see Appendix A for the Marlboro example), it seems unlikely that R. J. Reynolds (RJR) would be significantly informationally disadvantaged relative to costs or demand given the extensive Wall Street scouting of firms in this business. The an-

nouncement that Philip Morris was prepared to lose \$2 billion clearly signaled a hostile intent and might be interpreted as an attempt to develop a reputation for aggressive conduct, but RJR's competitive response would be unlikely to be shaped solely by Philip Morris' action. A pervasive exception to this thinking concerns professionally managed, large-scale firms that compete with small, family-owned fringe competitors (as is the case in many retail sectors). In general, powerful incumbents are likely to be the competitors holding informational advantages when such asymmetries do exist. Thus, informational advantages appear to be correlated with the traditional market power indicators.

Additional asymmetry issues identifiable from the context of marketing are those related to goals or demand segments served by a firm. These conditions further extend the domain of circumstances favorable toward predation. With respect to goals, it is well known that family businesses often have different goals (e.g., "being the boss" or maintaining family control) that are not as profit-driven as those of their corporate competition. (Indeed, such goals are important exit barriers in some industries.) Similarly, in large corporations, business goals for the various units are often a reflection of some business portfolio model. For example, it is certainly likely that the cigarette business has a different role in the product portfolio of product-market specialist Liggett & Myers than in that of Philip Morris. Because cigarettes may play different roles in the long-term plans of each corporation, the relative importance of volume and profit goals (both short- and long-term) and therefore the willingness to sacrifice short-term profits for volume is also likely to vary.

Viewed in terms of demand segments served, current research shows that price competition among brands of different quality levels is often asymmetric. Blattberg and Wisniewski's (1989) work, for example, suggests that in markets with both high-price-tier, high-quality brands and low-price-tier, low-quality brands, the distribution of consumer preferences may be bimodal. The evidence cited for this inference is that price "deals" on brands in the high-price tier draw sales from other high-price brands and lower-tier brands as the price gap between tiers narrows. (This pattern is observable in the Marlboro case.) However, price deals for low-tier brands do not result in substantial shifts in sales from high-tier brands. (Bemmaor and Mouchoux [1991] report similar findings.) The consequence of these findings is that private label brands are extremely dependent on the price umbrella of higher-priced national brands. Thus, differences in real or perceived quality can facilitate predation even at above-cost prices because of the asymmetric cross-elasticities between demand segments. Indeed, mere brand awareness may be sufficient to establish such asymmetric demand if incumbent brands are competing with fledgling firms (cf. Rosenbaum 1987).

Because competing firms have differing resources, market power, and managerial capabilities, it is conceivable that these differences occasionally result in informational asymmetries that could foster predation. We argue, however, that differences across firms in the goals established for a given product category or in the cross-elasticities their brands face in the marketplace are fundamentally much more important to the decision to engage in aggressive pricing behavior. For

example, product line consequences of price can be important. Philip Morris' decision to slash prices on Marlboro was likely made only after considering the cross-elasticity of demand with respect to other brands in its line, such as Basic and Virginia Slims. (Reibstein and Gatignon [1984] offer a framework for assessing the impact of product line price differentials.) Precisely because predatory pricing is a strategic behavior, we must appreciate the strategic role a given product category plays in an organization's long-range plan to adequately predict pricing behavior. However, assessments of the differences in the elasticity of demand curves facing different competitors (resulting from product differentiation) and in strategically sourced product goals are not evident in traditional explanations for predatory pricing. Their incorporation in developing thought on predation seems especially relevant.

Managerial Decision Making Under Uncertainty

Traditional economic thinking regarding managerial decision-making processes is based on a narrow model of calculated, profit-maximizing behavior under conditions of complete information concerning demand, competitors, and so on. Advocates of judgment-based marketing decision models do not appear to accept this assumption. Rather, they argue that managers tap multiple sources of objective and subjective information in making decisions rather than in calibrating data sets (cf. Little and Lodish 1981). Businesspeople may make good decisions on the basis of poor information, because either the measurements or models required for optimal decisions are nonexistent. Although decision support systems are designed to help reduce the magnitude of this problem, judgmental inputs remain important, as even the best models are inexact when attempting to model dynamic effects (Little 1979). As Little (p. 22) states, "Managers ... do not formulate problems in model terms because that is not the way they naturally think. They want to think about strategy not analysis."

As we noted previously, though some economists admit incomplete information into the mix to show the possibility of "rational" predation, the signaling and reputation models make strong assumptions concerning managerial conjecturing and information processing (cf. Milgrom and Roberts 1990; Moorthy 1985). For example, the signaling models to which we previously alluded presume that managers make correct conjectures about the meaning of rivals' signals. Recent behavioral research is less sanguine about these assumptions.

The rationality of decision making. Several researchers from management (Amit, Domowitz, and Fershtman 1988; Porter 1980) and marketing (Dolan 1981; Moore and Urbany 1994; Moorthy 1985), for example, have begun to focus on the extent to which the process of conjecturing and decision making by individual people and managers is only *procedurally* rational. That is, rather than being perfectly rational, these processes reflect only a desire and ability to make the best possible decision under the circumstances to

achieve particular goals.² Such research recognizes the possibility of multiple and complex goals and is concerned with how decision makers collect information, form expectations regarding outcomes, and use information in making decisions. One conclusion of this research shows that managers rarely may be assumed to engage in perfectly calculated decision making in an economic sense. In the instance of Philip Morris, with the extremely negative reaction of the stock market, it seems unlikely that the firm had a precise calculation of when the \$2 billion loss for 1993 might be recouped. Perhaps Philip Morris had other goals in mind for which this aggressive price cut seemed necessary. Although the literature on decision making under uncertainty is vast and growing, a few research streams seem of special relevance to the issue of predatory pricing.

One area of importance is well summarized by Gerla (1985), who notes that the psychology of risk taking has potential applicability for understanding predatory pricing behavior. Evidence suggests that managers considering risky strategies do not estimate or weigh probabilities accurately, are risk-averse with respect to strategies for gains, and are "risk-affinitive" with respect to losses. For example, when the choice is between a certain but modest loss of share to competitors from no action and the risky option of predatory pricing, managers are likely to be predisposed toward the risky option. (Such a situation seems similar to that faced by Philip Morris in the cigarette business in early 1993 with the erosion of Marlboro's share.) This tendency is reinforced by the likelihood that the small probability of success through predation will likely be overestimated.

The accuracy of managers' conjectures is also the subject of several recent inquiries. Moore and Urbany (1994), for example, discuss three factors that can lead to misjudgments of competitors' reactions to a strategic move. As they point out, managers (1) may not bother to forecast competitors' capabilities or situations, (2) may misunderstand competitors' capabilities or situations, or (3) may predict reactions incorrectly because of a failure to see things from the competitor's point of view. It also has been pointed out that a potentially dangerous judgmental bias is to expect competitors to act the same way as the decision-making firm would act (Boulding et al. 1994).

Others have made similar arguments: Zajac and Bazerman (1991), for example, note that managers have blind spots in assessing competitive reactions and may not consider competitors' payoffs. Indeed, Moorthy (1985, p. 276) argues that price wars often result because competitors are uncertain about each other's payoffs and mistakenly pursue tough reputational strategies. On the other hand, Saporito (1992) suggests that price wars may be due simply to errors firms make in forecasting the length of time it takes to drive weaker competitors from a market; when exit barriers are strong and prolonged by unexpected bankruptcy, price cutting begets more price cutting.

Errors in predicting competitive response or in the con-

sequences of responses have also been found to occur from inadequate information processing by so-called experts. Mahajan's (1992) experiments examining the "overconfidence effect" suggest that decision makers may overestimate their ability to "diagnose" the information they initially retrieve. Those with greater domain expertise are especially likely to overinflate the value of initial information and reduce their processing efforts.

In the terminology of game theory, a sequence of competitive decisions made over time is a *repeated game*. The contribution of the previously described signaling and reputation models is their identification of possible predatory strategies extending from such sequential processes and managerial decision making. However, these models do not account for manager risk taking or for variance in the accuracy of conjectures employed for making decisions. The previous findings suggest that these models could be fruitfully extended to recognize that (1) managers' assessments of the risk of an action may be situationally determined and (2) competitive conjecturing is (understandably) mediocre or erroneous in many settings.

The implication of such an extension relates directly to the recoupment standard by challenging prior assumptions regarding managers' assessments of the prospect of recovering lost profits after a predatory episode. In short, if we accept that managers may apply differing risk propensities as well as be incapable of accurately assessing the potential of recoupment, the basis of requiring such a finding for predation is questionable.

Those who defend the recoupment standard may point out that the recoupment argument does not assume that managers are always capable of accurately assessing the chances for recoupment, only that recoupment is the motive. That managers may err does not mean there are not serious consequences (e.g., destructive price wars or reductions in quality, output, or innovation) that ultimately result in diminished vigor of competition with potentially adverse effects on consumer welfare. The recoupment standard thus fails to protect the market from myopic or "risk-affinitive" managers engaging in aggressive pricing that causes such consequences. In other words, because the Supreme Court's standard only blocks low prices as anticompetitive if it forecasts a high probability of recoupment, it would not attempt to block low prices that it deems are based on "errors" in judgment or are "irrational." In either case injury to consumer welfare may well occur.

Consumer Welfare Consequences of Predation

A final issue involves extant views of predatory pricing, which relate to the notion of consumer welfare. The federal perspective on consumer welfare (conditioned by economic theory) is that healthy competition should ensure allocative efficiency and low prices. As long as aggressive pricing is procompetitive, policymakers should take no action that insulates inefficient competitors from price competition. In contrast, the state views sometimes seem to reflect an overriding concern for preserving competitors. A market-oriented view shares the economics view that consumer welfare is enhanced by healthy competition and not by preserving

²According to Dickson (1992, p. 69), "Imperfect procedural rationality is deliberation under conditions of limited knowledge and uncertainty. Competitive rationality is the imperfect procedural rationality of economic rivals."

weak competitors for their own sakes. Yet, this view suggests that the benefits of competition not only include low prices, but also nonprice benefits such as high quality, innovation, and variety.

It is well known that consumers switch brands regularly in many categories and that some of this switching reflects a desire for variety (cf. McAlister and Pessemier 1982). Indeed, many brands and retailers survive in markets by virtue of "niching" strategies that offer unique benefits (including low prices) to narrowly targeted segments. These brands can be threatened when the price gap between the dominant, mainstream offering and such fringe competitors grows. As Scherer (1976) points out, a dominant premium-priced brand can often use periodic price cuts (at above cost) to reduce the attractiveness of an industry to new low-priced potential entrants, which results in increased demand for a premium product from those who would prefer a lesser-priced alternative.

Although some economists may argue that such is the nature of competition "on the merits," our point is that consumer welfare can be judged on dimensions beyond prices and aggregate output levels; the diversity in output and the average quality of output are nontrivial dimensions of consumer welfare. Some economists might observe, however, that if consumers really valued variety, the demand for the weaker firms' varieties should be relatively insensitive to price competition. This is a difficult point to refute if the buyers' desire for variety is just a preference for having many choices available at a given point in time. But in some markets the benefit of variety is the ability to vary brand choices over time (i.e., to have a mix of consumption experiences). Such brands tend to have low purchase frequencies relative to their rate of household penetration (Kahn, Kalwani, and Morrison 1988). Buyers may well stock up on steeply discounted alternatives in the short run, thus unintentionally causing the collapse of shallow-pocketed firms that provide variety.

That consumers lose when price competition is arbitrarily restricted to preserve inefficient competitors or those offering minor nonprice benefits is indisputable; but to ignore the relevance of nonprice benefits to consumers is to accept a view of competition that presumes homogeneity. In fact, outside of pure commodity markets, nonprice competition is often the most vibrant aspect of a market, and marketers would argue that markets containing both price and nonprice competitors best serve the welfare of consumers.³

Toward a Marketing-Based Framework for Analyzing Aggressive and Predatory Pricing

Applying the previous insights and building on current thinking, we here frame an approach for understanding and

analyzing predatory pricing in the context of aggressive pricing behavior. Following our contention that extant thought is unnecessarily constrained in its ability to sufficiently reflect today's competitive and organizational decision making, we propose a framework that is not restricted by the narrow assumptions of traditional economic price theory. However, its foundation parallels the basic outline of extant thinking. That thinking is based on four principles:

1. Aggressive pricing involves an *economic sacrifice* to the aggressor firm.
2. The firm's pricing behavior is presumably based on managerial evaluations of the possible outcomes of the behavior so that the long-term benefits are thought to be worth the sacrifice (i.e., makes *economic sense*).
3. A consequence of aggressive pricing is *harm to one or more competitors*.
4. To be predatory, the consequence of the injury to competitors must be *injury to consumer welfare*.

Important differences, however, distinguish our view of aggressive and predatory pricing in terms of how these principles are interpreted and applied. First, our view differs in that we offer a less restrictive interpretation of these principles. In Table 2, we summarize these key differences across the principles identified for analyzing aggressive pricing with a view toward judging predation. Under the marketing-oriented view, additional dimensions supplement the traditional perspective for each of these principles. Second, as with the traditional perspective, all four principles are fundamental to a finding of predatory pricing. In applying these principles, however, our framework incorporates a broader view of competitive responses to aggressive pricing in terms of the strategic options and enabling conditions underlying competitors' choices of response.

Interpretation of the Four Principles

Economic sacrifice. Current policy requires prices to be below cost to consider a claim of predation. More precisely, average variable cost appears to be the preferred measure of whether sufficient economic sacrifice has been incurred. As we previously noted, though, scholars adopting a dynamic perspective of competition have shown that the aims of predation may be achieved even at above-cost prices. Such arguments, however, are not new. Various economists have argued against the use of short-term marginal cost or average variable costs as indicators that equally efficient firms are likely to be excluded because of a predatory pricing episode (cf. Posner 1976; Scherer 1976). Scherer (1976), for example, has suggested that prices above marginal costs are likely to be exclusionary in many cases. This is especially true if one competitor is advantaged in terms of retailer relations or brand image (Rosenbaum 1987). Joskow and Klevorick (1979) also note that firms cannot be expected to earn normal returns on investments if they are forced to set prices below average *total* cost. Indeed, for high fixed-cost industries, the gap between average variable cost and average total cost can be enormous; therefore, substantial sacrifices

³Indeed, Dixit and Stiglitz (1977) demonstrate that even in monopolistically competitive situations, economists' market solutions to the number of competitors are likely to yield too few firms to reflect demand satisfactorily. With asymmetric demand and cost considerations, they observe a bias against competitors with high costs and inelastic demands.

TABLE 2
Traditional Versus Prospective Analysis of Aggressive Pricing

Principles	Traditional Economics Perspective	Additional Dimensions in Marketing-Oriented View
Economic sacrifice	Below-cost pricing	Significant reduction in short-term profits resulting from steep price reductions lasting for more than one purchase cycle
Economic sense	Set supracompetitive prices in the future to recoup losses from below-cost prices	Set prices to •Control discounting •Stop erosion of share •Cross-sell existing customers •Shift demand to more profitable segments •Retain high-volume buyers •Force competitors to shift resources across categories
Harm to competitors	Entry likely to be deterred, exit forced, or output reduced	Competitors may be forced to retrench to core markets or reduce fixed or variable costs
Consumer welfare consequences	Impact of competitors' responses on •Demand/supply balance •Competitive price levels	Impact of competitors' responses on •Innovation •Choice •Competitive price levels •Quality of output (as reflected in customer satisfaction)

may be incurred even at prices that are well above average variable costs.

The meaningfulness of a below-cost test is even more problematic in the case of the multiproduct firm. Above-cost reductions in profitability on cash cows can represent a substantial sacrifice to the firm even beyond their direct effect on corporate earnings, because these products are expected to underwrite the firm's efforts to develop successful products in other categories. Although Philip Morris has deep pockets, its decision to pursue a strategy for one strategic business unit that management knew would cost the company \$2 billion in one year is clearly an economic sacrifice.

With these limitations, we eschew the use of narrow cost tests in favor of a less restrictive interpretation of economic sacrifice. In our view, price reductions can create sufficient economic sacrifice to be of concern if the cuts result in substantial profit reductions. Although it is likely that in high variable-cost firms such profit reductions most often result from prices that are below average variable costs, prices below average total cost can cause equal or greater absolute losses in high fixed-cost firms. On the other hand, in each of these cases, aggressive pricing does not constitute economic sacrifice if short-term volume gains offset the lower margin.

Economic sense. The current view is that economic sense reflects the narrow logic that economic sacrifices will be incurred by an aggressive firm only when a reasonable inference is held that such sacrifices may be recovered through future price increases. This perspective underlies the court's

requirement that a reasonable prospect or dangerous probability of recoupment in the form of price increases be established for any claim of predation. Such a view of managerial decision making, however, does not take into consideration the strategic nature of competitive interaction and the multitude of tactical scenarios that can attend a pricing decision.

As is indicated in Table 2, we believe that aggressive and potentially predatory pricing may make economic sense for a variety of reasons, with the logic of future recoupment in the form of supracompetitive prices representing only one such reason. Indeed, competitive strategy is extremely complex and varied. Just as retailers may recover losses from price leaders through increased sales of complementary products without setting supracompetitive prices, firms may reap many kinds of benefits that may not have recoupment as an aim. For example, under some competitive conditions, profit reductions due to lower margins may be less damaging than reductions that result from eroding market share if no pricing action were taken. In such cases, aggressive pricing may simply represent a lower loss strategy. Alternatively, a firm competing across several product markets may sacrifice profits in one category to induce a rival to shift resources away from another category. Giving up profit in one market may enable the firm to achieve greater profits overall. Or, firms selling a line of substitute products at different margins may sacrifice margins on high-end products if the result is a shifting of volume out of the low-priced end of the market. Finally, aggressive pricing in markets characterized by extensive discounting may signal competitors to reduce promotions or face the risk of a price war. (Note that all of

these examples are potential explanations of the Philip Morris action.)

In each example, the decision to risk economic sacrifice may make sense to an aggressive firm, yet not involve future price increases or any other form of recoupment. That said, economic sense is assumed if there is a logical competitive rationale for using aggressive pricing.

Harm to competitors. It is well established that it is not the purpose of antitrust policy to protect individual competitors. However, unless one or more competitors are injured through aggressive pricing, there can be no injury to competition; and injury to competition is a necessary condition for injuring consumer welfare.

In the traditional theory of predation, competitive injury occurs when entry is deterred (lower prices make markets less attractive) or when existing competitors are forced to reduce output or to exit. Injury of this form yields the requisite conditions that enable a predatory firm to harm competition through raising prices above supracompetitive levels. When injured, the competition is reduced, leaving the predator with sufficient market power to control prices.

Competitive injury may occur through the traditional means of entry deterrence, reduced output, and exit, but we believe there also are other forms of competitor injury. Harm to competition need not be limited to injury that results in competitive exit or retrenchment with resultant supracompetitive prices. As we have pointed out, firms that face aggressive pricing by their rivals often defy traditional logic by remaining in markets at the lower prices even though they sustain significant profit losses. Rather than exiting or reducing their output, these firms adjust to the new, lower profit level through nonprice responses, such as reducing research and development, advertising, customer service, or variety. Marlboro certainly could benefit from forcing competitors to exit the discount segment (thereby reducing variety) and restrict advertising and new product development efforts in response to a substantial decline in industry profitability. Firms' specific reactions to an aggressive pricing episode depend on their unique organizational goals, competitive conditions, and decision-making processes. Because aggressive pricing causes major competitors to reduce nonprice competitive initiatives in order to remain viable, a market can gravitate toward commodity status. Once this occurs, the aggressor—having successfully disciplined the market through a price war (or threat of one)—may be able to exert some form of price leadership to achieve supracompetitive prices. Thus, competitive harm can include not only forced exit or output reduction, but also—from a marketing perspective—a decline in competitive mentality and nonprice initiatives. Moreover, as we discuss subsequently, traditional assessments of market conditions must be supplemented to foresee the full possibilities of such harm.

Consequences for welfare. Extant theory relies on a narrow, efficiency-based conception of consumer welfare; in contrast, in a marketing perspective, consumer welfare is more broadly defined. From the marketing perspective, allocative efficiency requires a continuously vibrant mar-

ket of independent actors. If competitive exit or output reduction occur (the traditional routes to facilitate recoupment), supracompetitive prices will emerge. But discarding key points of differentiation is much like output reduction; rivals give up their ambitions. The demise of non-price competition can be directly detrimental (e.g., fewer flights from Denver to Phoenix; substitution for high-cost, natural ingredients in food products) because vibrant, non-price competition is gone, or indirectly detrimental, if the loss of competition occurs because of market disciplining. In the latter case, firms that have pared costs to remain in a market are unlikely to be aggressive competitors on either price or nonprice dimensions. As marketers learn more about the nature of competitive interaction, the partial substitutability of price and nonprice strategies becomes more evident (cf. Ramaswamy, Gatignon, and Reibstein 1994). Thus, a dynamic perspective on aggressive pricing and predation must recognize the possibility of reduced consumer welfare due to the loss of nonprice benefits and the potential for price leadership and collusion that results from the loss of product differentiation in the market.

Conditions Influencing Successful Predation: The Role of Competitors' Responses

In the traditional view, the principles previously discussed are applied through the concept of market power (cf. Baldwin 1987). That is, predatory pricing is deemed possible (i.e., makes economic sense) only if the economic sacrifices incurred (i.e., from below-cost prices) can be recouped through later supracompetitive prices. Recoupment itself requires market power or the ability to set supracompetitive prices, which means that harm to competitors and consumers has (necessarily) resulted. Market power is determined through evaluation of market structure conditions. In the context of the traditional perspective, knowledge of a firm's market power therefore provides a parsimonious set of conditions for assessing the response of competitors to an aggressive and potentially predatory pricing episode. Rather than be confined to traditional assessments of market power as informed by market structure analysis, our framework relies on a broader set of conditions. Hence, for evaluating the conditions that influence the possibility of predatory pricing, we go beyond considering market structure to embrace the strategic process of competitive interaction and managerial decision making that underlie the responses of individual firms to aggressive pricing.

Some work in marketing on competitive reactions presumes that competitive reactivity (i.e., the magnitude of response to a rival's market action) is a characteristic of a market (Gatignon 1984, p. 389). Other research concludes that the likelihood and magnitude of response are shaped by the visibility and reversibility of the aggressor's action and the ease with which rivals can respond (Chen and MacMillan 1992; Chen and Miller 1994). However, that individual firms in the same market facing the same competitive conditions will not all react to a competitor's action in the same way is well established by empirical research in marketing (cf. Ramaswamy, Gatignon, and Reibstein 1994). Research on responses to competitive entry indicates that incumbent

firms respond by using those marketing variables that are the firm's best weapons in terms of elasticity of market response (Gatignon, Anderson, and Helson 1989). Thus, price actions may stimulate price responses from some competitors and nonprice responses from others. Similarly, some competitors may exit a market when confronted with aggressive pricing, whereas others may remain and attempt to adapt or respond. As Dickson (1992, p. 71, emphasis added) points out, "In a theory of dynamic competition ... the focus shifts to the study of variation in the *adaptability* of individual sellers over time."

Such observations suggest that firms' responses to aggressive pricing are truly strategic behaviors, as opposed to exogenously determined reactions. Therefore, we view market structure considerations as but one element in the set of conditions influencing responses to aggressive pricing and the prospect of successful predation. For example, if price responses were viewed in the context of a typical strategic planning portfolio model, it would be recognized that firms would need to respond in the context of their competitive market structures. At the same time, a certain level of free will exists as firms decide on the appropriate goals and strategies for individual products or business units; a firm may choose share gains over profit gains and elect to withdraw, defend, or aggressively respond. In a dynamic setting, how a particular firm responds also depends on how its organizational culture, information resources, and personality (risk orientation) and skills of the decision maker shape the decision-making process (Dickson 1992).

With the questions in Appendix B, we use the insights emerging from scholars in marketing and related disciplines to provide a basis for assessing the potential competitive responses and consequences associated with aggressive pricing that tends toward predation. These insights are categorized into four sets of conditions (see Appendix B) that influence the willingness and ability of firms to respond to aggressive and potentially predatory pricing. The specific conditions reflect the relative resources, constraints, or positions of advantage (i.e., power and countervailing power) that might be available to various competitors in a market. A governing assumption is that power is not simply binary (firms have either deep or shallow pockets) but that there are shades of difference, whose gradations reflect differences in the opportunities, information, or strategic orientation that facilitate a firm's ability to adapt to a changing competitive situation (i.e., yield the firm some countervailing power).

Thus, opportunities may be available to one competitor in a market but not others, which creates variations between firms in terms of the range of available response strategies⁴ (e.g., one competitor may have greater cross-subsidization opportunities, be less reliant on a market as a source of cash flow, or have a stronger commitment to a market than an-

other competitor). These additional conditions can confer countervailing power to firms with lesser resources than an aggressive price leader, thus reducing the extent of competitive injury sustained. Examples of countervailing power include finding market niches, being able to accept substantially lower sales or profit goals, and being willing and able to take a risk that the predator is bluffing.

Recent research that addresses reactions to signals and actions appears to broadly support our viewpoint. A fundamental question addressed by much of this research is, What determines the magnitude of a firm's competitive response? (cf. Heil and Walters 1992; Robertson, Eliashberg, and Rymon 1995). Whether a response is retaliatory (high magnitude), matching, or passive (low magnitude) appears to be influenced by characteristics of the signal (e.g., the hostility and severity of consequences embedded in it), the reacting firm's strategic situation (e.g., opportunities for niching strategies, channel power, commitment to the market), and traditional industry market structure variables (Chen and MacMillan 1992; Heil and Robertson 1991). For assessing the prospect of successful predation involving price, we consider each of these factors an important element of inquiry.

Analyzing an Aggressive and Potentially Predatory Pricing Episode

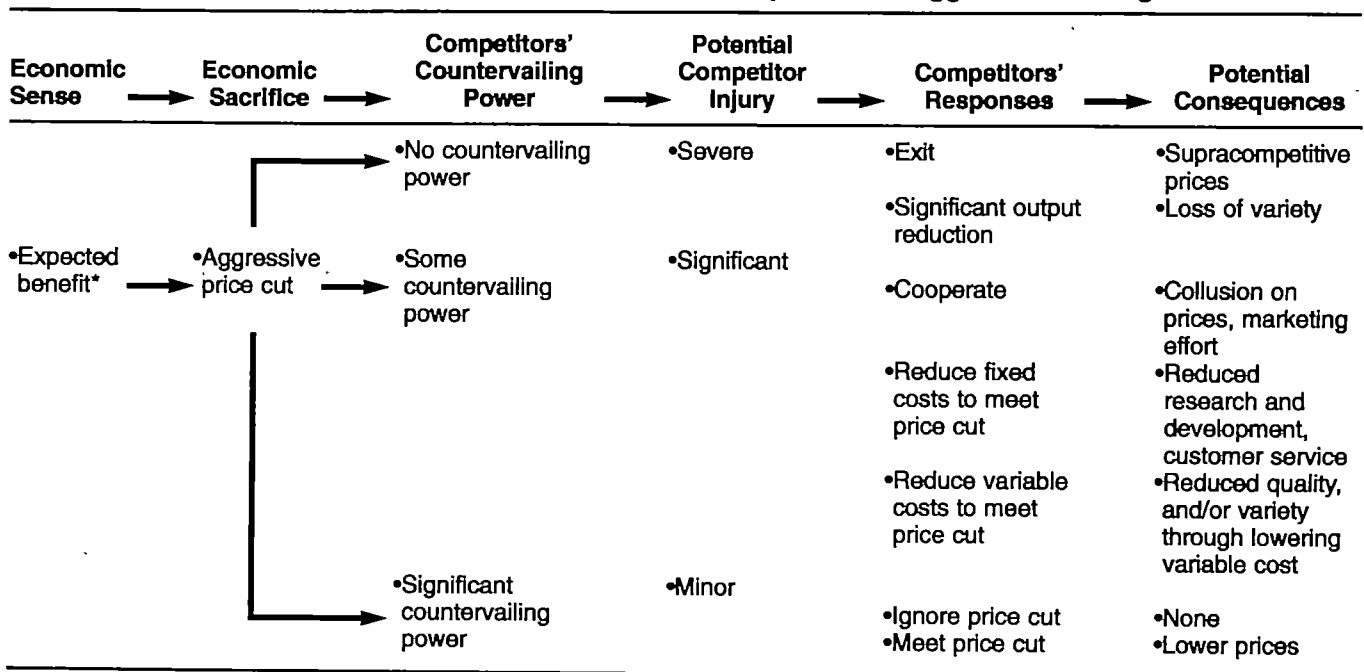
In the Figure, we portray the flow of analysis and key linkages among the four principles in our framework. Fundamental to this process is a view of competitive response to aggressive pricing that is based on the previously discussed expanded notion of countervailing power. If there is some economic sacrifice by an aggressive firm, rivals may respond in various ways, depending on their perceptions and countervailing power. These responses determine the potential consequences to competitive rivalry and consumer welfare.

If the countervailing power of competitors is sufficient to either meet or ignore the aggressive pricing without incurring substantial economic harm, neither competition nor consumer welfare is at risk. Indeed, consumer welfare is enhanced if prices remain low. In the absence of countervailing power, aggressive pricing is more likely to result in significant exit or output reduction; therefore, the traditional market power indicators are likely to be sufficient for the analysis. If competitors possess enough countervailing power to remain in business, but only at the cost of economically damaging losses, we argue that both price and nonprice determinants of consumer welfare may be at risk. To salvage a minimum level of profitability in such an environment, management's choices are the following:

1. Reduce variable costs by lowering labor, material, or setup costs (by reducing product quality or variety) to offset the lower price.
2. Offset price reductions by lowering fixed costs for advertising, customer service, and research and development or by reducing selling and distribution costs by retreating to the most profitable channels or territories.
3. Cooperatively establish a "fair" price or marketing effort level either through collusion or by pursuing the "tit-for-tat"

⁴Lambkin and Day (1989) offer a parallel perspective, showing how a competitive shake-out results in failures, subpar performers, and survivors.

FIGURE
Predicting Competitive and Welfare Consequences of Aggressive Pricing



*See list of economic sense dimensions in Table 2.

strategy that has been judged as best in prisoner dilemma-type game situations (cf. Axelrod 1980; Fader and Hauser 1988).⁵

Economic theory and marketing logic suggest that firms that unilaterally reduce marketing efforts cause their own demise. However, just as in the case of price, a broad loss in competitive effort on quality, variety, customer service, or innovation reduces pressure on the leader to continue offering these benefits, thereby further compounding the loss to consumer welfare. Whether these consequences are harmful enough to warrant a charge of predation remains a policy question that can only be answered in the context of an individual case.

Discussion

That price aggression is a highly visible action as well as one that can be swiftly matched means that a relatively high probability of retaliation can be expected (Chen and Miller 1994). So why do firms attack with price? Chen and Miller (1994, p. 97) suggest that "[p]aradoxically, it may be that the attacks that have the greatest potential payoffs are the most

likely to be visible." In other words, aggressive behavior must, in some way, make economic sense. The framework we present offers an approach for understanding the economic sense of aggressive pricing and competitors' responses to aggressive and potentially predatory pricing, as well as for identifying the potential consequences for competition and consumer welfare. Although its principle foundations parallel extant thinking, important differences distinguish the application and interpretation of these principles for analyzing such conduct. As we observed, the dominant economic theory currently informing public policy argues that predation is irrational and would therefore not occur. But the stringent assumptions underlying that thinking challenge its legitimacy. Although parsimonious models of managerial decision making can be useful, rivals in markets characterized by intensive competition require complex decision-making processes to judge the sense of their actions. As Dickson (1992, p. 72) argues, "Competitive innovation-imitation depends on the accuracy of a firm's environmental analyses. Little attention has been paid to how marketing decision-makers scan the entire marketplace environment, [and] structure such analysis ... in their innovation-imitation decision-making."

Recent scholarship focusing on competitive interactions and managers' strategic decision-making processes argues for a dynamic view of price and nonprice competition, in which complex goals, signals, and conjectures under imperfect information dominate. To date, little of this research has emphasized pricing strategy. Chen and MacMillan (1992) argue that researchers interested in competitive interaction have underestimated the role of price decisions because they appear to be tactical actions when in fact they are often decisions of great magnitude (as in aggressive pricing). Because price is a readily measurable

⁵The notion that cooperatively established prices may be a consequence of an aggressive pricing policy that is met with some countervailing power apparently underlies the Justice Department's investigation of Archer-Daniels-Midland (ADM). When ADM entered the market for lysine (a feed additive made from corn), prices were around \$2.25 per pound. By 1991, due to ADM's pricing (and increased industry capacity), prices fell to \$.65 per pound—well below the estimated ADM break-even price level of \$.85 per pound. Despite the increased capacity, however, prices rebounded sharply in 1992 and reached \$1.35 per pound by 1994, with ADM holding about 50% of the market (Burton, Kilmar, and Gibson 1995; Yates 1995).

competitive instrument, it is relatively easy to include in econometric estimations of reaction matrices. But, though such studies help document the nature of competitors' reactions, they do not help us understand the strategic reasons for the observed reaction patterns (Weitz 1985). Additionally, the nature of competitive responses can be varied—even across rivals in the same market. In this respect, one of our key motivations is to foster further research on competitive interaction and strategic decision making in the area of pricing and on the choice between price and non-price dimensions of competitive strategy.

Because the framework presented here integrates various explanations underlying aggressive pricing behavior and competitive response, it offers a guide for structuring further public policy thinking regarding predation. A consequence of this framework is to open the vast middle ground between those situations in which aggressive pricing causes no competitive harm and those in which competitors are driven out of a market. As we suggest in the Figure, the middle ground (i.e., where significant injury occurs) recognizes the potential impact of aggressive pricing on collusive pricing practices, nonprice competition, and nonprice dimensions of consumer welfare. Current thinking ignores these consequences.

Application of the framework and principles to public policy requires the development of indicators of economic sacrifice, nonprice competition, and welfare consequences. Doubtless there will be controversy over such measures. On the other hand, there has been considerable disagreement over the measurement of below cost, and the welfare consequence known as *supracompetitive prices* is not amenable to precise calibration. Because the field of marketing is frequently involved in measurement challenges and underscores the virtues of quality, service, variety, and innovation to consumers and strategists, it is especially well positioned to tackle the challenge of developing multidimensional indicators of consumer welfare.

As researchers in marketing begin to examine further the nature of aggressive and predatory pricing, they also may wish to consider the related practices of dumping and non-price predation. A practice that has been related to predatory pricing involves *international dumping*, or the importation of products into the United States at prices substantially less than the actual market value or wholesale price in the principal market of the country of their production and the attendant costs of importation combined. This practice has received considerable attention by both policymakers and managers, with analogies to predatory pricing in an international context. Although similarities in conduct exist, the basis for policy development of U.S. antidumping laws has been below-market price, "fairness," and free trade, whereas predation policy's concern is for below-cost price and consumer welfare (cf. Feltham et al. 1991). With respect to nonprice predation, whereas marketing traditionally has viewed the marketing mix as composed of interchangeable variables for addressing consumer needs and competing amongst rivals, antitrust policy has distinguished predatory pricing conduct from conduct involving other marketing mix variables. However, in addition to pricing strategies, firms may employ strategies of predation that attempt to increase competitors' costs. Gundlach (1990) reviews a vari-

ety of different forms of nonprice predation that may result in anticompetitive outcomes. Research addressing the nature of both these practices and the contrasting philosophies that inform each provide fruitful inquiry for further research.

Finally, it is notable that antitrust inquiry based on strict adherence to the simplifying assumptions and deductive logic of neoclassical price theory so prevalent in the 1980s appears to be evolving toward more careful examination and factual inquiry. Considerable antitrust scholarship (see Royall 1995) and at least one Supreme Court decision (*Eastman Kodak Company v. Image Technical Service* 1992) have observed the limited usefulness of simplified economic models and tests for understanding the complex economic forces operating in today's business environments. Rather than relying on such circumscribed views, these scholars and judges favor a melding of prior antitrust thinking with the enriched explanations of less constrained thought. Our framework offers such an integration within the domain of predatory pricing.

Appendix A

The Marlboro Story: Aggressive Competition or Predatory Pricing?

In April of 1993, Philip Morris announced major price cuts on its Marlboro brand, the cigarette industry leader, admitting that the proposed plan could cost the company \$2 billion in lost operating income for the year. The announcement led Wall Street to mark down Philip Morris' market value by 20% in one day. Within a few months it became apparent that the plan was not simply a short-term promotion but a price cut that would be in effect for some time.

What strategic objectives motivated these cuts? Industry analyses fell into two camps. In one, the strategic target was viewed as the growing discount segment of the market. Price-oriented competitors had been taking a steadily increasing share of the market for several years, with a substantial portion of this growth coming from Marlboro. Although Philip Morris was a player in that segment (primarily with its Basic brand), it was estimated that a pack of discount cigarettes earned only about one nickel per pack for the manufacturer—about one-tenth the margin of premium cigarettes. By narrowing the gap between premiums and discount from as much as \$1 to perhaps 45¢, arguably Marlboro would draw market share back from the discount segment—both from lower margin Philip Morris brands and from competitors' brands (*Financial Times* 1993). As one Wall Street analyst put it, "The job that has to be done is ... destroying the two price points below the full-price brands. That's the objective and what they want to do" (*Supermarket News* 1993, p. 15).

The alternative view was that Philip Morris' real target was its major competitor, RJR, manufacturer of half a dozen strong brands, including Winston, Camel, and Vantage. Heavily burdened by the debt from its famous leveraged buyout in 1989, RJR was viewed as ill-equipped for a price war involving its premium priced cash cows. RJR was said to need 9¢ per \$1 of sales just for debt service. Being highly leveraged, RJR's effective tax rate was only 8%, whereas Philip Morris' 32% rate enabled it to significantly share any

earnings reductions with the U.S. Treasury. Moreover, market tests conducted in Oregon the previous winter demonstrated that Marlboro share gains came equally from discount and competing premium brands. The conclusion was that Philip Morris hoped to inflict significant damage on RJR by increasing Marlboro's market share in the premium segment or forcing RJR to cut prices on its premium brands and push up prices on RJR discount brands (Chakravarthy and Feldman 1993).

As events unfolded, RJR ultimately reduced its premium prices. Discount competitors also unveiled new brands in lower (but not in superdiscount) price ranges. The narrowing price gap between premium and discount brands did result in sales growth for the Marlboro brand. Philip Morris' discount brand suffered a 10% decline, and RJR chose to exit the generic and private label segment altogether. R. J. Reynolds lagged behind Philip Morris's Marlboro in cutting prices, and its premium brands did not keep pace with Marlboro's growth. Overall, RJR's share of the total cigarette market fell from 32.5% in the first half of 1993 to 27.4% in the first half of 1994 (Teinowitz 1994). According to one analysis, the value of the Marlboro brand fell 36% in 1993 due to a 32% decline in brand-related operating profits. But the value of RJR Nabisco's Camel and Winston brands declined by 59% in the same period (Ourusoff 1994, p. 14).

Did consumers benefit (health questions aside) from the price competition unleashed by Philip Morris? Did Philip Morris benefit? Did Philip Morris have a high probability of recouping the profits lost from this price action if RJR could be eliminated or rendered less competitive? Did Philip Morris' management do a poor job of conjecturing RJR's response? Did they underestimate the cost of the price war, or overestimate the gain in market share, or was the decision made without regard to any profit goal? Did management even attempt to calculate the long-term profit impact of this action? Did Philip Morris act out of confidence by "sending a message" to its competitors that they should refrain from aggressive behavior? Or, did Philip Morris act out of fear, "rolling the dice" in the belief that inaction could only result in continued erosion of its premium cigarette business? Was Philip Morris management acting rationally?

Viewed from a legal perspective, the foregoing questions are moot. The cost of the price war finally became too high for Philip Morris, which gradually ended its deep discounting program. But had the aggressive pricing continued, what would have been the consequences? Would the prospect of significant damage to RJR, Brown &

Williamson, or Liggett & Myers have provided fertile ground for predatory pricing charges? Or does any price above cost constitute competition "on the merits"?

Appendix B

Assessing Conditions Influencing the Competitive Responses and Consequences of Aggressive Pricing

1. Are there asymmetries in the abilities of firms to conduct a price war or recoup lost profits (*market power*)?
 - Superior financial resources
 - Larger market share
 - Cross-subsidization opportunities from other business units
 - Lower production or capital costs
 - Higher profit margins
2. Are there *informational asymmetries* that enable a predator to influence the exit, entry, output, or pricing decisions of competitors?
 - Prey believes predator has superior knowledge of cost or demand conditions
 - Prey believes predator has deeper pockets
 - Prey believes predator is likely to repeat history of aggressive pricing
 - Prey lacks knowledge of predator's payoffs
3. Are there differences in the *strategic product and/or market opportunities* that enable one firm to use price more aggressively than the competition to build sales?
 - Firm has a premium price and/or quality image creating asymmetric cross-elasticity (making price competition advantageous for the aggressor)
 - Firm has a wider range of complementary goods and services (facilitating recoupment)
 - No niches are available to rivals to hide from price competition
4. Are there differences in firms' *strategic orientations* that moderate the importance of profitability?
 - Differences in a product's role in the firm's portfolio (e.g., cash cow, star)
 - Differences in overall firm goals that may create exit barriers (e.g., family business)
 - Differences in the tolerance for risk

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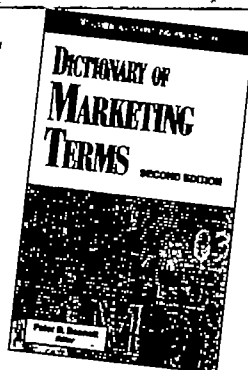
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Collaborative Communication in Interfirm Relationships: Moderating Effects of Integration and Control

Governance strategies, such as integration or control, structure and regulate the conduct of parties in exchange relationships; as such, they serve to constrain the latitude of the decision making of channel partners. Similarly, collaborative communication can be used to create an atmosphere of mutual support, thereby creating volitional compliance between partners. The authors develop a model that addresses the interrelationships of governance and communication and examine the effects of collaborative communication on channel outcomes (the dealer's perceptions of commitment to, satisfaction with, and coordination of activities with a focal manufacturer) across various levels of integration and control. Based on survey data collected from a national sample of computer dealers, the findings indicate that when levels of integration or manufacturer control are high, the effect of collaborative communication on outcomes is *weaker* than when integration or control is low.

Marketers continue to be interested in how communication between firms can best be managed to enhance channel outcomes (Anderson and Narus 1990; Anderson and Weitz 1989, 1992; Boyle et. al 1992; Frazier and Rody 1991). Bleeke and Ernst (1993, p. xvi) argue that the most important element to successful interfirm exchange is communication: "The most carefully designed relationship will crumble without good, frequent communication." Described as the "glue that holds together a channel of distribution" (Mohr and Nevin 1990, p. 36), communication is vital to the on-going management of channel relationships (Grabner and Rosenberg 1969).

Of particular importance within channel systems is collaborative communication, which can be viewed in terms of a specific combination of intensive, relationship-building communication facets; these facets include frequency, bidirectionality, formality, and content of influence attempts (Mohr and Nevin 1990). Increased levels of these dimensions of communication have been found to be associated with commitment (Anderson and Weitz 1992; Morgan and Hunt 1994), satisfaction (Keith, Jackson, and Crosby 1990), and coordination (Gultinan, Rejab, and Rodgers 1980). Collaborative communication relies on the development of

cooperative attitudes and processes to guide and administer the relationship (Morgan and Hunt 1994), which creates an atmosphere of mutual support and respect. By highlighting shared interests and common goals, collaborative communication can create volitional compliance between partners.

The impact of collaborative communication on outcomes may be a function of the conditions under which it is used (Mohr and Nevin 1990). More specifically, collaborative communication may have a differential effect on outcomes under various governance mechanisms. As a "mode of organizing transactions" (Williamson and Ouchi 1981)—including tools, devices, and tactics for preserving an exchange (Gundlach 1994; Heide 1994)—governance mechanisms provide the ability to structure and regulate the conduct of parties in an exchange relation. Because both communication and governance mechanisms, such as integration and control, are elements that can be used to manage interfirm exchanges, an understanding of their interrelationships is important.

From the dealer's perspective, when integration and control are high, dealers relinquish a degree of autonomy and surrender decision-making authority to another party in the channel. Collaborative communication may be used in these instances to maintain a positive relationship and make dealers feel like an integral part of the team. On the other hand, when integration and control are low, dealers have more freedom to act autonomously. By fostering shared values, mutual support, and aligning interests, collaborative communication may give the dealer added incentive to work on behalf of the manufacturer's product, which can lead to improved coordination, satisfaction, and commitment.

Whether the marginal gains from collaborative communication are greater under high or low levels of integration and control is unknown—and research on this issue is important. Theoretically, in addition to providing insight into the question of when collaborative communications have value, such research adds to the growing body of literature

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on governance mechanisms in interfirm relationships. Managerially, a better understanding of the interrelationships among governance strategies and communication can help enhance the effectiveness of channel relationships. We address the effect of collaborative communication—when it is used in combination with various levels and types of integration and control—on the dealer's perceptions of commitment to, satisfaction with, and coordination of activities with a focal manufacturer.

Integration and Control in Interfirm Relationships

Organizing a distribution channel involves implementing an efficient governance structure and developing relationships between channel members (Haugland and Reve 1992; Nevin 1995). Because governance strategies serve to structure and regulate the conduct of the parties in an exchange, they constrain the latitude of decision making within the relationship. We explore two governance strategies: integration and control.

Integration

Williamson's (1975, 1985) theory of transaction costs suggests that exchange relationships can be structured along a continuum of integration ranging from markets to hierarchies (vertical integration). Because it affects the inclusiveness of goals, the locus of decision making, and the scope of supervision and control (Boyle et al. 1992), varying degrees of integration represent important differences in governance (cf. Nevin 1995; Robicheaux and Coleman 1994). In particular, integration involves decisions regarding the autonomy of trading partners versus needs for cooperation and authority within the interfirm relationship (cf. Harrigan 1985, pp. 67–68). Increasing levels of integration can serve to restrict the autonomy and latitude of the trading partners' decision making.

The range of levels of integration includes the following (e.g., Brown 1981; Dwyer and Oh 1988; Etgar 1976b; Klein, Frazier, and Roth 1990): First, representing a lack or absence of integration, parties in conventional or independent channel relationships include relatively autonomous members and rely on market mechanisms such as price to administer exchange. Parties in these market-based exchange relationships retain complete latitude over their own decisions and, for the most part, are completely autonomous. Second, more formal modes of governance, such as those found in franchise relationships, rely on contractual agreements between the parties, in which franchisees relinquish latitude of decision making (as well as royalty payments) to the franchisor in exchange for assistance in the form of advertising, national image and reputation, training, and so forth. Presumably, by giving up autonomy for a more standardized business format, coordination between parties is enhanced. The most extreme integration exists when a channel member or dealer is actually owned by another channel member or manufacturer.

For example, in the personal computer industry, integration through ownership may arise from one of two sources. First, individual store outlets may be owned by a channel intermediary, as in the case of some Computer-Land stores that are company-owned and operated (versus independently franchised). Second, integration may arise when a computer manufacturer owns retail outlets, as in the case of Radio Shack or Heath Zenith outlets. Manufacturers must coordinate relationships with corporate headquarters as well as with individual store outlets to ensure adequate training, support, and merchandising of their lines. Although the ownership of the individual dealership differs with each type of integration, the commonality is that the "proprietor" (either a manufacturer or another channel intermediary) is granted, by virtue of ownership, decision-making authority over all aspects of the retail unit's business. In other words, from the dealer's perspective, the dealer's latitude of decision making is constrained.

Control

When one party exerts control over another, it has influenced or specified a partner's actions in order to achieve desired outcomes (Frazier 1983a; Pfeffer and Salancik 1978; Skinner and Guiltinan 1985). Although *power* is commonly expressed as the ability of one party to influence another (for a review, see Gaski 1984), *control* is best viewed as an outcome of power and results when a firm is successful in modifying its partner's behaviors (e.g., Anderson and Narus 1984; El-Ansary and Stern 1972; Etgar 1976a; Skinner and Guiltinan 1985). This difference is consistent with Frazier's (1983b) distinction between the *ability to influence*, or power, and *achieved influence*, or control. In our model, we address the effects of manufacturer control over the dealer.

Similar to integration, control over another implies that the controlled has relinquished some degree of autonomy over its decisions, which reflects restrictions in scope and latitude of decision making. If the dealers' latitude of decision making is constrained (by increasing either integration or manufacturer control), dealers will have less opportunity to implement their own policies and procedures. In the case of manufacturer control, the dealer has ceded decision-making authority to the manufacturer. In the case of integration, however, the dealer might cede decision-making authority to either a manufacturer (in the case of manufacturer-owned outlets) or another channel member (in the case of outlets owned by other channel intermediaries). In this sense, then, integration and manufacturer control are not necessarily synonymous.

Model Development

We examine the impact of collaborative communication on outcomes under various levels of integration and manufacturer control. We focus on a constellation of communication behaviors that Mohr and Nevin (1990) identify as collabo-

rative: frequency, bidirectionality, formality,¹ and noncoercive content of communication. *Frequency* refers to the amount of contact between channel members. *Bidirectionality* refers to two-way (as opposed to one-way, or unidirectional) vertical flows of communication in the channel. *Formality* (formal versus informal modality) of communication refers to the extent to which contacts between channel members are routinized, planned, or structured, as opposed to unplanned, fleeting, or ad hoc in nature. *Noncoercive content* refers to the use of influence strategies based on information sharing, in which compliance is not mediated by the other party (in this case, the manufacturer).

Based on findings from prior research, which suggest that higher levels of the four dimensions of communication are beneficial (Anderson, Lodish, and Weitz 1987; Anderson and Narus 1990; Anderson and Weitz 1989, 1992; Frazier and Rody 1991; Frazier and Summers 1984), we expect the dimensions of collaborative communication to be correlated positively. Yet, collaborative communication is more than, say, more frequent communication or more bidirectional communication.² For example, if a dealer filed a lawsuit against a manufacturer, formality and frequency could be high, but bidirectionality (feedback) and noncoercive content low; this communication approach would hardly be considered collaborative, despite the high scores on two dimensions.

The outcomes we explore include satisfaction, commitment, and coordination. We define *satisfaction* as the dealer's evaluation of the characteristics of the channel relationship (Frazier 1983a; Ruekert and Churchill 1984). *Commitment* refers to the desire to maintain membership in the dyadic relationship (Moorman, Zaltman, and Deshpande 1992; Morgan and Hunt 1994). *Coordination* refers to the extent to which different parties in the relationship work well together in accomplishing a collective set of tasks (Van de Ven, Delbecq, and Koenig 1976). Specifically, it gauges whether the dealer's and manufacturer's activities are synchronized for smooth, effective interfacing.

¹Although conceptual and empirical evidence is equivocal (e.g., Anderson, Lodish, and Weitz 1987; Mohr and Nevin 1990), we posit that formality is positively associated with collaborative communication. Collaboration between retailers and manufacturers requires an underlying foundation of formal procedures to guide the relationship. This is especially likely to be true in the developing and rapidly changing personal computer industry in which formal communication channels must be established before informal ones are able to develop. In addition, formal channels would likely facilitate the transmission of technical information (O'Callaghan, Kaufmann, and Konsynski 1992), as would conditions in which needs for explicit messages are more important (Bandyopadhyay, Robicheaux, and Hill 1994).

²Collaborative communication is conceptually distinct from the relational norm of information sharing (Heide and John 1992; Noordewier, John, and Nevin 1990). Norms refer to generalized expectations or shared beliefs about appropriate behaviors in the relationship. If channel members share the belief that extensive information exchange is an appropriate behavior, we expect that their actual communication behaviors would exhibit that. Our focus is on the actual communication behaviors themselves, rather than on the norms. This is an important distinction, because the norms, while thought to predict the behaviors, may be imperfect predictors.

Level of Integration

A basic premise underlying much research on the structure and management of close relationships (including channel relationships) is that collaborative communication is used appropriately for relationships that are linked more tightly. For example, Mohr and Nevin (1990), among others (cf. Anderson and Weitz 1989; Krapfel, Salmond, and Spekman 1991), argue that because collaborative communication matches the increased needs for information sharing in more closely linked relationships, the combination of integration and collaborative communication enhances channel outcomes. Their model of communication is developed from the perspective of the manufacturer and is based on the costs of collaboration, relative to the benefits, for the manufacturer.

When we consider the issue from the dealer's perspective, however, a different hypothesis is possible. For dealers, integration gives another party the legitimate authority to specify their actions and behaviors; hence, downstream channel members relinquish their rights to autonomy, adopting the decisions, policies, and procedures of the other firm. Under high integration, the use of collaborative communication may be valuable because it can maintain a positive relationship (Anderson and Weitz 1992; Boyle et al. 1992; Brown 1981; Etgar 1976b), thus empowering channel members and making them feel an integral part of the team. With the tight governing properties of integration, however, the marginal impact of collaborative communication on outcomes under high integration is likely to be small.

In low-integration relationships, in which coordination is effected by means of price mechanisms, the potential impact of collaborative communication on outcomes may be much greater. Because each party is free to make its own decisions, with little to no constraint provided by the other, low levels of integration may be associated with fairly free-wheeling decisions, which may or may not be synergistic and mutually reinforcing. Hence, by aligning the parties' interests and values, collaborative communication may serve as a pseudo-integrating device, thereby making the independent, autonomous dealer feel like more of a partner with the manufacturer. When manufacturers take the time and make the effort to share information, solicit and give feedback, and routinize communication flows, they may see improved coordination of the dealer's efforts with their own. In such independent relationships, collaborative communication may help the dealer work with the manufacturer and protect its interests at the same time. By creating a situation in which dealers find themselves feeling valued and appreciated, they may become more satisfied and committed to that manufacturer.

In summary, using an idea of diminishing returns as a basis, we posit that when integration is high, there is less opportunity for collaborative communication to influence channel outcomes. When authority is under a high level of integration, the level of dealer latitude in decision making is already restricted, and collaborative communication, while useful, has less opportunity to influence dealer outcomes than in the low-integration case. However, under a low level of integration, the marginal impact of collaborative communication on outcomes is much greater. Dealers have a great

degree of decision autonomy; hence, the use of collaborative communication can serve to better align the dealer's and manufacturer's activities, thereby greatly enhancing outcomes.

H₁: More collaborative communication has a stronger, positive effect on channel member satisfaction, commitment, and coordination under market-based relationships and a weaker effect on outcomes under more integrated relationships.

Manufacturer Control

Prior research has linked the various dimensions of collaborative communication to coordination, commitment, and satisfaction (e.g., Anderson and Weitz 1992; Guiltinan, Rejab, and Rodgers 1980; Keith, Jackson, and Crosby 1990; Morgan and Hunt 1994); however, a recent study by Kumar, Scheer, and Steenkamp (1995b) suggests that the potential effect of communication on outcomes is a function of power in the relationship. Specifically, they find that one dimension of collaborative communication, namely, bilateral communication (which was part of the larger construct of procedural fairness), has an interactive effect with one indicator of manufacturer power on relationship quality. Relationship quality was a higher-order factor that included commitment, conflict, trust, and so forth. This finding hints at the possibility that the effect of communication on outcomes may vary, depending on the level of power in the relationship. We take this possibility one step further, and explicitly develop the idea that collaborative communication, in particular, interacts with manufacturer control in its effect on channel outcomes.

Manufacturer control implies that the dealer has yielded to the manufacturer's wishes, possibly acceding to demands, acquiescing to requests, or relinquishing decision-making autonomy. In other words, dealers that do business with high-control manufacturers yield decision-making authority to the manufacturer. High-control manufacturers may use collaborative communication (e.g., Anderson and Narus 1990; Frazier and Rody 1991; Frazier and Summers 1986) to cement the relationships further. However, because of the high level of manufacturer control, the marginal impact of collaborative communication on outcomes under high control is likely to be weak.

When manufacturer control is low, however, dealers retain decision-making authority and operate with a high degree of freedom. Collaborative communication actively solicits dealers' views on channel matters, incorporating their concerns and suggestions into decisions and routinizing and planning interactions to assist the flow of information. Persuasion occurs from information exchange and recommendations. More frequent communication is an aid to dealers in coordinating channel policies, providing technical information, and answering questions. A more collaborative approach could assist, in a fairly unobtrusive manner, in bringing the dealers "on board" and helping them work in concert with the manufacturer.

More frequent, bidirectional, formal, and noncoercive communication can be used to develop convergence in viewpoints between the manufacturer and dealer, thereby facilitating commitment, satisfaction, and the coordination of

the relationship. Higher dealer commitment and satisfaction are obtained from positive attitudes, and thus dealers may exert greater effort on behalf of the low-control manufacturer's product. Furthermore, collaborative communication could be both unexpected and welcomed by dealers in relationships with low-control manufacturers, because the dealer may feel valued and important—especially if the dealer has important advice for the low-control manufacturer.

Again, based on an idea of diminishing returns, because decision making by the dealer is already constrained in a high-control situation, there is less occasion for collaborative communication to enhance outcomes. For low-control manufacturers, however, the marginal impact of collaborative communication on outcomes is much greater: Dealers have not yielded to manufacturers, and collaborative communication can help coordinate activities and enhance dealer commitment and satisfaction.

H₂: More collaborative communication has a stronger positive effect on dealer satisfaction, commitment, and coordination under low levels of manufacturer control than under high levels of manufacturer control.

Method

Context and Sample

Because a variety of channels are used to distribute personal computers and related products, we chose the personal computer industry as the context for our study. Independent channels, franchise channels, and company- or manufacturer-owned channels account for approximately 50%, 30%, and 20%, respectively, of the relationships at the dealer level (Association of Better Computer Dealers 1988). The wide variety of channels and relationships in the computer industry allows for variance on the relevant independent and dependent variable, namely, the effects of integration, control, and communication on dealer satisfaction, commitment, and coordination.

The sampling frame we used was a list of approximately 750 computer stores, affiliated with the Association of Better Computer Dealers (the microcomputer industry trade association). To include nonmember dealers, this mailing list was supplemented with an additional 53 names from a random sample of outlets from a major computer franchisor.

Owners and managers were used as key informants (cf. John and Reve 1982) at each dealer location. The use of key informants was appropriate, because dealerships are typically small (average size ranges from 9 to 34 employees; see *Computer Reseller News* 1988) and the owner or manager of the dealership typically is the top decision maker. Pretests indicated that this person is considered the most knowledgeable about interaction with manufacturers.

Telephone prescreening was conducted on all dealers to (1) identify the owner or manager, (2) seek prior commitment to participate in the mail survey, and (3) identify the manufacturer that served as the referent for that dealer's responses. The unit of analysis was the relationship between a computer dealer and *one* of its manufacturers of computers or computer-related equipment. The identification of the referent manufacturer about which the dealer answered the

questionnaire was done randomly according to a procedure similar to the use of Kish's (1965) selection grid. Rather than allow dealers to self-select the referent manufacturer (they might have consistently selected either their best or worst manufacturer, thereby creating a halo effect in which the dealer responded in a consistently high or low fashion on all of the relevant measures), we followed a randomized process. Through this randomization process, variance on the type of manufacturer (best or worst) was ensured, and the probability of a manufacturer being included as a referent was proportional to their presence in the dealer channels.

Response Rate

A total of 557 surveys were mailed. A reminder letter was mailed approximately one month after the questionnaire. One hundred forty surveys were returned for a response rate of 25%. Fifteen surveys were eliminated from analysis because of incomplete or inconsistent responses. Thus, the final sample size was 125. The mean number of employees was 22.3 (s.d. = 16.3); the mean monthly sales volume was \$970,000 (s.d. = \$1,396,000).

An assessment of nonresponse bias (Armstrong and Overton 1977) showed no significant differences between early and late respondents on characteristics of the relationship with the referent manufacturer (length of the relationship, number of other products carried, sales volume for the referent manufacturer, inventory turnover for the referent manufacturer's product). Late respondents were, however, slightly larger in terms of the number of employees ($t = 2.36, p < .02$) and total dollar volume of the dealership ($t = 1.72, p < .09$).

Measures

Multi-item scales based on the procedures outlined by Churchill (1979) were developed. Because behavior is based on perceptions rather than on objective measures of interaction (cf. Anderson, Lodish, and Weitz 1987), the measures tapped the dealer's perceptions of the relationship with the referent manufacturer. These scales were pretested in a series of iterative personal interviews with 12 computer dealers. Each dealer in the pretest answered the questionnaire and, as they read the questions, verbalized any thoughts that came to mind, including ambiguities, inapplicable questions, interesting issues, and so on. The items were revised following each personal interview until no further changes were suggested.

The measures used for the constructs in the model are shown in the Appendix. Confirmatory factor analysis (available from the first author) was used to assess the internal and external consistency of all items measured with multi-item reflective indicators; all measures exhibited acceptable convergent and discriminant validity. In Table 1, we provide information on summary statistics for these scales.

Integration. In our research context, we explored four different categories of integration (dummy-coded for analysis); dealers were asked to check the category that best described their dealership. *Independent dealers* ($n = 70$) were those who had no affiliation with a particular manufacturer or retail chain; they retained complete autonomy over their

unit's decisions. *Franchise dealers* ($n = 31$) were associated by contractual agreement and store name to a major retail chain. Finally, complete integration included either *company-owned* ($n = 18$) or *manufacturer-owned* ($n = 5$) outlets. For manufacturer-owned outlets, vertical integration was accomplished by computer manufacturers that owned retail outlets (e.g., Radio Shack or Heath Zenith), and by virtue of their ownership had decision-making authority over most aspects of the retail unit's business. In the company-owned case, integration was based on ownership at the retail level. For example, when ComputerLand owned a group of retail outlets (as opposed to franchising them), it reflected corporate ownership. The sample appears to reflect the diversity of the target population, with the percentage of independent dealers being 57%, franchise 25%, and company- or manufacturer-owned outlets 18%. These percentages are similar to the 50%, 30%, and 20% figures reported previously.

Manufacturer control. Rather than tap the ability to influence (power), our measure assessed actual (achieved) control. Viewing control as achieved influence over decisions, we examined the dealer's perceptions regarding the degree to which the manufacturer controlled or influenced the dealer's decisions and operations (four items). For example, dealers were asked to report the extent to which the manufacturer influenced their programs and policies. Coefficient alpha for this scale was .78.

Collaborative communication. Our measure focused on the extent to which communication was frequent, bidirectional, formal, and noncoercive (Mohr and Nevin 1990).³ We used formative scales to measure three of the four facets of communication. The exception was formality, for which a different approach had been taken in prior research. Formative indicators were used, because the frequency, bidirectionality, and noncoercive aspects of communication are necessary but separate conditions for the emergence of the construct (e.g., Oliver and Anderson 1994). That is, the indicators form the construct but are not a reflection of it. For example, the overall frequency of communication between manufacturer and dealer is determined by the sum of each possible form of communication. It is not necessary that the various modes of communication (e.g., telephone, face-to-face) be highly correlated. When using formative indicators to measure constructs, it is inappropriate to expect unidimensionality at the item level. As Howell (1987, p. 121) states, "multidimensional composites [formative indicators] are not appropriately modeled in terms of their individual indicants. Neither is the computation of coefficient alpha appropriate."

The frequency, or quantity, of communication refers to how often channel members have contact with each other (Farace, Monge, and Russell 1977). This aspect of communication is consistently measured as a formative, or checklist, scale (Howell 1987), in which a variety of possible modes of communicating are itemized: "More" of the construct is defined as higher frequency across the possible

³In this sense, then, the construct of collaborative communication might be viewed as a continuum, with lower scores reflecting less collaborative or more autonomous communication.

TABLE 1
Correlation Matrix

	Integration		Collaborative Communication			Frequency	Bidirectionality	Formality	Noncoercive Content	Commitment	Satisfaction	Coordination	Conflict	Relationship Length	Dealer Size
	Franchise	Company	Control												
Integration Franchise	1.00														
Integration Company	-.24*	1.00													
Control	.03	.17	1.00												
Collaborative Communication	.11	.20*	.53*	1.00											
Frequency	.03	.26*	.51*	.82*											
Bidirectionality	.06	.08	.19*	.67*		1.00									
Formality	.14	.14	.55*	.74*		.46*	1.00								
Noncoercive	.15	.09	.33*	.74*		.54*	.32*	1.00							
						.49*	.35*	.44*	1.00						
Commitment	.08	.20*	.36*	.38*		.57*	.31*	.39*	.28*	1.00					
Satisfaction	.19*	.21*	.34*	.51*		.43*	.27*	.28*	.26*	.37*	1.00				
Coordination	.03	.33*	.15	.42*		.41*	.28*	.29*	.30*	.23*	.25*	1.00			
Conflict	-.10	-.15	.21*	0.0		-.11	.02	.06	.04	-.19*	-.34*	-.52*	1.00		
Relationship Length	-.16	.15	.40*	.27*		.23*	.20*	.17	.19*	.12	.07	-.03	.30*	1.00	
Dealer Size	.10	-.14	-.05	.12		.04	.05	.08	.21*	-.01	-.01	.02	.14	.07	1.00
Number of Items	a	a	4	4	19	3	3	4	3	3	4	3	3	1	1
Range	—	—	4-20	-2.8-2.7	2-7.7	2-9.5	4-20	4-20	3-14	6-15	4-20	3-14	3-15	1-10+	5-50
Mean	—	—	11.0	0.0	4.6	5.8	12.6	12.6	8.3	12.9	13.0	9.3	6.9	3.8	22.6
St. Dev.	—	—	3.4	1	1.3	1.6	3.8	3.8	3.0	2.4	3.7	2.4	2.8	2.5	16.7
Alpha	—	—	.78	b	c	c	.86	.86	c	.80	.85	.75	.79	—	—

n = 125

*p < .05, two-tailed test

aDummy variable.

bThe four dimensions of collaborative communication were standardized and summed.

cFormative indicators in which the measured variables are causes of the underlying theoretical construct.

modes (e.g., Frazier, Gill, and Kale 1989). To ensure that higher scores accurately reflect relationships with greater communication frequency, it is important that the checklist include as many modes of communicating as are used by the parties. Hence, based on pretesting, we used an extensive list of modes by which dealers could communicate with manufacturers and vice versa. Eight modes were listed that dealers could use to communicate with manufacturers (dealer frequency); eleven modes were listed that manufacturers could use to communicate with dealers (manufacturer frequency). Dealers indicated how frequently each mode was used. The averages of dealer frequency and manufacturer frequency were added together for the measure of total frequency.

Bidirectionality refers to the vertical movement of communication within the organizational hierarchy (Farace, Monge, and Russell 1977), and hence an important aspect of bidirectional flows is the degree to which feedback is sent and received (Anderson, Lodish, and Weitz 1987). In this industry, feedback from both the dealer to the manufacturer and the manufacturer to the dealer is important; hence, bidirectionality was measured with three items that tapped the extent to which feedback was given (1) by the dealer to the manufacturer (one item) and (2) by the manufacturer to the dealer (two items) (see also Anderson, Lodish, and Weitz 1987). The two items measuring feedback from the manufacturer to the dealer were averaged prior to adding them with the item measuring feedback from the dealer (hence, both types of feedback were weighted equally). Higher scores on this scale indicated greater bidirectionality.

Formality of communication was measured with a four-item scale that captured the extent to which formal mechanisms for communication exist within the manufacturer-dealer relationship (i.e., structured and planned opportunities for interaction rather than ad hoc or unplanned opportunities). Although particular modes of communication may be considered more or less formal (i.e., written reports are more formal than hallway chats), variance may exist within each mode, depending on the particular interaction. For example, a weekly meeting is formal to the extent that it is routine but may be informal because the meeting agenda is un-

planned and dynamic. Hence, our measure of formality tapped the extent to which communication was formal, explicit, and detailed rather than informal, vague, or loose (see Anderson, Lodish, and Weitz 1987). Coefficient alpha for this scale was .86.

The measure of noncoercive content focused on the various types of noncoercive influence attempts used by the manufacturer to modify the dealer's behavior. Our measure asked dealers about the extent to which three noncoercive influence attempts (information exchange, requests, and recommendations) were used by the referent manufacturer (Frazier and Rody 1991; Frazier and Summers 1984, 1986).

A second-order factor model was run to examine the hypothesis that collaborative communication is a second-order factor in which the items arise from the first-order factors of communication frequency, bidirectionality, formality, and noncoercive content. In turn, the four first-order factors stem from a single second-order factor (collaborative communication). The overall fit of the model is consistent with the hypothesis, with a χ^2 of 1.98 (df = 2, $p = .371$), a goodness-of-fit index of .99, and an adjusted goodness-of-fit index of .96. All loadings are large and significant ($p < .001$). No normalized residuals exceed 2.0, with the largest residual equal to 1.20. In Table 2, we provide details on this second-order factor model.

Outcomes. Satisfaction was measured with six items that tapped the dealer's level of satisfaction with specific aspects of the relationship, including assistance in managing inventory, cooperative advertising, and so forth. For example, dealers were asked to report how satisfied they were with promotional support from the manufacturer (see Ruekert and Churchill 1984). Two of these items were dropped during scale purification (see the Appendix); coefficient alpha was .85.

Because no scale development on channel member commitment had been conducted at the inception of our study, we developed the following measure: Commitment assessed the degree to which the dealer felt committed to the manufacturer and wanted to continue the relationship. For example, one of the three items measuring this variable asked the

TABLE 2
Second-Order Factor Model For Collaborative Communication

Measure of Communication	Unstandardized Second-Order Loading (γ)	Standardized Second-Order Loading (γ)	Standard Error	T-value
Frequency	1.000 ^a	.654	0.0	0.0
Bidirectionality	.420	.811	.071	5.91 ^b
Formality	.346	.535	.071	4.84 ^b
Noncoercive Content	.759	.626	.139	5.47 ^b
Overall Fit				
Total coefficient of determination for structural equations = .788				
χ^2 with 2 df is 1.98, $p = .371$				
Goodness of fit index = .992				
Adjusted goodness-of-fit index = .962				

^aconstrained to one

^b $p < .001$

Note: All θ_e 's were set to zero to identify the model

dealer how committed it was to carrying the manufacturer's products. Coefficient alpha for this scale was .80.

Coordination was measured with a three-item scale assessing the degree to which manufacturer and dealer activities were well-organized and synchronized (Guiltinan, Rejab, and Rodgers 1980). Coefficient alpha for this scale was .75.

Control Variables. We included three variables as covariates. First, prior history in the relationship could be offered as an alternative explanation for our findings (Dwyer, Schurr, and Oh 1987). Hence, we measured how long the dealer and manufacturer had been doing business with each other. Second, the size of the dealer could also be a confounding variable. Large dealers could warrant additional communication efforts, thus enhancing outcomes. Hence, we included dealer size as reflected by the number of employees. Third, because it is an inherent property of interdependent relationships and has important implications for outcomes (Gaski 1984; Stern and El-Ansary 1992) and because our pretest revealed that tensions between computer manufacturers and dealers were high during the emergent stage of industry development, channel conflict was included as a covariate. Conflict was operationalized with four items reflecting the overall level of disagreement between the parties (Anderson and Narus 1990) and assessing both the frequency and intensity with which the dealer and manufacturer argued over issues in their relationship (Brown and Day 1981; Stern and El-Ansary 1992, p. 281). One of these items was dropped during scale purification (see the Appendix); coefficient alpha for this scale was .79.

Findings

Data Analysis

The hypotheses were tested using hierarchical moderator regression analysis (Cohen and Cohen 1983). To simplify the presentation of the research results, we standardized and summed the four dimensions of collaborative communication for hypothesis testing. Using a summated index instead of subscales is appropriate because of the strong correlations among subscales, and other evidence suggest that the four dimensions act in concert with respect to other variables (Carver 1989).⁴ Also, summated scales were used for all other variables in the regression models except integration.

Although integration included four categories, because of the small number of cases in the manufacturer-owned group, we opted for a conservative approach in our analyses, initially omitting the $n = 5$ manufacturer-owned dealers. Using the three categories of independents, franchisees, and company-owned dealers, our integration variable was dummy-coded into two variables (Cohen and Cohen 1983). The first dummy variable, franchise, reflects the change from independent to franchise dealers. The second dummy variable, company, reflects the change from independent to

company-owned dealers.⁵

The continuous independent and dependent variables in the hierarchical moderator regression models were mean-centered to reduce multicollinearity between the main and interaction terms (Aiken and West 1991). Consistent with Cohen and Cohen (1983), the interaction variables were entered in the regression model *after* their constituent elements to partial out the main effects from the interaction terms.

Results

The results of the regression models are presented in Table 3. Before discussing the findings for the specific hypotheses, we discuss the effects of covariates, main effects, and omnibus interaction tests. In terms of control variables, channel conflict has a strong, negative relationship with all three outcome variables, as was expected. Neither relationship length nor dealer size, however, was significantly related to the outcome variables, and their inclusion did not affect the sign or magnitude of any other coefficients.

For main effects, as the level of integration increases from independent to franchise, dealers report higher levels of satisfaction. As integration changes from independent to company-owned, dealers report higher satisfaction and coordination. Yet, the change from independent to either level of integration does not affect commitment. Manufacturer control is positively, significantly related to all three outcome variables. With higher levels of manufacturer control, dealers are more satisfied and committed to the relationship, and they report that their efforts are better coordinated with those of the manufacturer (this latter effect is significant at $p < .10$). In addition, collaborative communication is significantly related to all three outcome variables (the relationship to commitment is significant at $p < .10$).

In Table 3, we show that the inclusion of interaction terms in our models significantly improves the variance explained for satisfaction and coordination. However, the omnibus test (change in R^2) is nonsignificant for commitment (though one of the univariate interaction terms is significant). In all, seven of nine interactions terms are significant. We now discuss these individual interactions to test our moderator hypotheses.

Integration. With respect to integration, the interactions between the different levels of integration and collaborative communication are significant for two of three outcomes: satisfaction and coordination. The interaction effects on commitment are nonsignificant.

Specifically, the negative interaction coefficients indicate that for more integrated structures, collaborative communication has a smaller effect on both satisfaction and coordination than for less integrated (more independent) relationships. In other words, as was predicted in H_1 , more collaborative communication has a stronger, positive effect on satisfaction and coordination under less integrated relationships, and a weaker, positive effect under more integrated

⁴All hypotheses were investigated with both the summated index and individual communication dimensions. Tests using the individual dimensions, available from the first author, are consistent with those reported here.

⁵Because both company- and manufacturer-owned dealers represent a strategy of integration, we also conducted additional analyses that combined these two categories. The combined analyses, though not shown, are the same as those presented in the text.

TABLE 3
Results Of Moderated Regression Analysis^a

	Commitment	Satisfaction	Coordination
Covariates:			
Conflict	-.32*** (-3.16)	-.44*** (-5.28)	-.59*** (-7.32)
Dealer Size	.03 (.31)	-.03 (-.35)	.08 (1.11)
Relationship Length	.10 (1.02)	.04 (.46)	0.0 (0.0)
Main Effects			
Collaborative Communication	.19* (1.61)	.55*** (5.59)	.46*** (4.89)
Manufacturer Control	.33*** (2.82)	.27*** (2.83)	.14* (1.55)
Franchise Structure	.02 (.23)	.13** (1.76)	-.04 (-.50)
Company-Owned Structure	.08 (.77)	.16** (1.93)	.22** (2.79)
R ²	.24	.48	.50
Interaction Effects			
Communication × Franchise	.06 (.61)	-.18** (-2.17)	-.13** (-1.65)
Communication × Company-Owned	-.08 (-.79)	-.27** (-3.15)	-.16** (-1.90)
Communication × Manufacturer Control	-.18** (-1.85)	-.18** (-2.26)	-.18*** (-2.48)
Incremental R ²	.03	.07	.05
F Change	1.40	5.02	3.53
Significance of F Change	.25	.01	.02
Full Model			
F(8,104)	4.28	12.30	12.44
Significance	0.0	0.0	0.0
R ²	.27	.55	.55
Adj R ²	.21	.50	.51

^aThe regression coefficients are standardized regression coefficients with t-values in parentheses.

* $p < .10$ ($t > 1.28$)

** $p < .05$ ($t > 1.645$)

*** $p < .01$ ($t > 2.83$)

relationships. We discuss the implications of this finding subsequently.

Manufacturer Control. The findings for manufacturer control indicate significant interactions between control and collaborative communication for all three outcomes. The negative interaction coefficients indicate that as manufacturer control increases, collaborative communication has a smaller effect on outcomes. In other words, as was predicted in H₂, more collaborative communication has a stronger, positive effect on outcomes under low-control situations, and a weaker, positive effect under high-control situations.

Discussion

The results of our study add to the growing literature on governance in interfirm relationships, indicating that collaborative communication differentially affects outcomes under various types of governance. Although increased levels of communication have been associated with commitment (Anderson and Weitz 1992; Morgan and Hunt 1994), satisfaction (Keith, Jackson, and Crosby 1990), and coordination (Guiltinan, Rejab, and Rodgers 1980), our findings provide a somewhat different perspective than does extant literature (cf. Anderson and Weitz 1989; Krapfel, Salmond, and Spekman 1991; Mohr and Nevin 1990) on how communication resources and efforts should be allocated. Specifically, combining collaborative communication with

low levels of governance may be a viable strategy to enhance outcomes. Unlike integration and control, collaborative communication is flexible, inexpensive, and can be implemented on short notice. Its versatility may make it a valuable complement to more traditional governance tools.

Our findings offer the intriguing possibility that collaborative communication may serve as a governance mode in its own right, providing similar advantages to those of the more traditional governance modes, but without the disadvantages. As Eisenberg and Goodall (1993) note, communication is recognized as a way to organize and coordinate interorganizational tasks. Nevin (1995) discusses a class of general governance mechanisms built around the development of closer, long-term relationships. To the extent that collaborative communication fulfills such a role (cf. Dwyer, Schurr, and Oh 1987), it may serve as a governing device.

Our results show a consistent pattern of findings for the interaction effects of governance mechanisms and collaborative communication on satisfaction and coordination. For commitment, however, the results are somewhat different: Only the interaction between control and collaborative communication is significant. One explanation for this finding may be that our measure of commitment did not distinguish between affective and calculating commitment (cf. Kumar, Hibbard, and Stern 1994). Briefly, dealers feel commitment to manufacturers because they want, as well as need, to do business with them. Because collaborative communication

showed a consistent, positive effect on commitment regardless of level of integration, we suspect that our measure captured primarily an affective component of commitment, namely, of the "want-to-do-business" type. This finding warrants additional attention.

In addition, the positive main effect of manufacturer control on outcomes is interesting. Because of the nature of our study's context, in which products were complex and subject to rapid changes, dealers likely relied on manufacturers for information regarding product capabilities, performance, limitations, and so forth. Hence, manufacturers likely had high expert power. To the extent that manufacturer control was used to help dealers and support and nurture relationships with channel members, the positive relationship between control and outcomes is not surprising (cf. Hunt and Nevin 1974). Rather than view manufacturer control as an infringement on their autonomy, dealers likely appreciated the manufacturers' use of power and control to help them improve their business performance. Such a positive relationship between power or control and outcomes would be consistent with a benevolent, rather than exploitative, use of power (e.g., Frazier and Summers 1986; Gundlach and Cadotte 1994).

The question of how collaborative communication works in conjunction with low-control and less integrated structures is intriguing—under low-integration or low-control conditions, dealers appear to be more receptive to and influenced by collaborative communication from the manufacturer than when under high-control and high-involvement conditions. In addition to our rationale based on the dealer's degree of decision-making autonomy, other explanations seem plausible. Pfeffer (1981) highlights the importance of symbolic actions, including language and communication, in organizations. He argues that language can be an important substitute for the use of raw power (p. 24). Our findings support this contention: They suggest that collaborative communication is most important when other signals, in the form of integration or control, are weak. To be sure, communication has more than only symbolic impact: The substantive impact of collaborative communication arising from information sharing is also important.

Another explanation is that collaborative communication works by disconfirming expectations. It may be that independent dealers in market relationships, or in relationships with low-control manufacturers, simply do not expect collaborative communication. When collaborative communication is used in such situation, it may overcome or disconfirm dealers' low expectations for interaction, thus enhancing the outcomes. Consistent with the literature on consumer satisfaction (e.g., Oliver 1980), our results suggest that when disconfirmation exceeds expectations, it can be extremely beneficial.

The use of a composite scale to measure communication represents an important advantage over other types of measures. As Kumar, Stern, and Achrol (1992) note in their de-

velopment of a measure for channel member performance, a composite scale comes closest to mapping the theoretical domain of multifaceted constructs. Conceptually, no single facet represents the construct, and therefore examining any single facet in isolation is not likely to produce an adequate assessment.

Limitations and Directions for Further Research

The implications drawn from our study must be tempered by its limitations. Data were collected from a single informant on only one side of the dyad and in a cross-sectional design. Although the use of a key informant was deemed appropriate for this particular context, further research could explore the manufacturer's perspective, which may offer additional insight into the theoretical relationships proposed here. The manufacturer's perspective also might be particularly important in assessing outcome variables, as well as manufacturer control, in which attributional biases may exist. Our study did not address the issues of total power and asymmetry of power (Buchanan 1992; Gundlach and Cadotte 1994; Kumar, Scheer, and Steenkamp 1995a). Whether our findings for manufacturer control hold in light of these issues remains to be seen.

Additional research also could address industry context effects. Communication between manufacturers and dealers is particularly important in the computer industry because of the technical nature of the products, rapid technological change, and dynamic competitive environment. At the time the data were collected, manufacturers tended to hold the balance of power (*Business Week* 1989; McCarthy 1988; Miller and Blumenthal 1990). Whether the effects we found hold in other contexts (e.g., low-involvement consumer products, slow rate of technological change, or more symmetrical power conditions) remains to be addressed.

These results are particularly interesting in comparison to the extant literature on channel communication and governance strategies. Mohr and Nevin's (1990) theory of channel communication suggests that the combination of more collaborative communication with more relational structures, favorable climates, or symmetrical power conditions strongly enhances outcomes, as does the combination of less collaborative (autonomous) communication with less relational structures, less favorable climates, or more asymmetrical power. Our study does not provide a direct empirical test of Mohr and Nevin's (1990)—for example, we do not measure relationalism, climate, or power symmetry—but our results hint at the possibility that more collaborative communication might be more effective in less salutary conditions. Further testing of this effect under other conditions would be extremely useful, as would research exploring whether the differential effects of collaborative communication we have demonstrated here also are present for other governance mechanisms, such as relational norms.

APPENDIX Measures^a

Integration

Which of the following best describes your dealership? (four categories: independent; franchise; corporate or owned by channel member; manufacturer-owned)

Manufacturer Control

(strongly disagree/strongly agree)

- The manufacturer has a significant influence on our operations.
- In the past six months, the manufacturer has changed or influenced our programs and policies.
- This manufacturer can pretty much dictate how we sell their product.
- We yield to recommendations of this manufacturer on general business practices.

Collaborative Communication

Frequency^b (very infrequently/very frequently)

For each of the following modes, over a typical four-week period, please estimate the frequency with which communication is spent in:

1. *your providing information to the manufacturer via*
 - Face-to-face interaction with salespeople
 - Telephone interaction with salespeople
 - Technical support
 - Written letters, correspondence
 - Computer Link
 - Trade Shows
 - Dealer Councils
 - Seminars

(Summed and divided by 8)

2. *the manufacturer providing information to you via*
 - Face-to-face interaction with salespeople
 - Telephone interaction with salespeople
 - Technical support
 - Written letters, correspondence
 - Computer link
 - Trade shows
 - Dealer Councils
 - Seminars
 - Advertising
 - Sales Literature
 - Newsletters

(Summed and divided by 11)

Bidirectionality^b (none/a lot):

How much feedback:

- Do you provide to this manufacturer about their product, market conditions, etc.?
 - Does this manufacturer provide to you?
- (negative feedback)
(positive feedback)

Formality (strongly disagree/strongly agree):

In coordinating our activities with this manufacturer, formal communication channels are followed (i.e., channels are regularized, structured modes versus casual, informal, word-of-mouth modes).

The terms of our relationship have been written down in detail.

The manufacturer's expectations of us are communicated in detail.

The terms of our relationship have been explicitly verbalized and discussed.

Noncoercive Influence Attempts^b

In their interactions with you, manufacturers often try to influence your attitudes and behaviors. Estimate the *frequency* with which this manufacturer's sales representatives or district managers employ each of the following methods to influence you. How frequently did the representative (very infrequently/very frequently):

- Make a recommendation that by following these suggestions, your dealership would be more profitable?
- Request that you follow his or her wishes on an issue without mentioning or implying any consequence of compliance or noncompliance?
- Merely discuss the overall strategy of dealership operations (e.g., the effect of inventory levels on sales) without making specific statements about what he or she would like you to do?

Control Variables

Conflict (strongly disagree/strongly agree)

We argue frequently with this manufacturer about business issues.

Our arguments with this manufacturer are very heated.

We disagree with the manufacturer about how we can best achieve our respective goals.

This relationship is marked by a high degree of harmony.
*(R)[†]

Relationship Length:

How long have you been doing business with this manufacturer? (in years)

Dealer Size:

How many employees work at this dealership?

Outcomes

Satisfaction (very dissatisfied/very satisfied)

How satisfied are you with the following aspects of the relationship with this manufacturer?

- Personal dealings with manufacturer's sales representatives
- Assistance in managing inventory*
- Cooperative advertising
- Promotional support (coupons, rebates, displays)
- Off-invoice promotional allowances
- Profit on sales of manufacturer's product*

Commitment (strongly disagree/strongly agree):

We are very committed to carrying this manufacturer's products.

We would like to discontinue carrying this manufacturer's product. (R)

We have a minimal commitment to this manufacturer. (R)

Coordination (strongly disagree/strongly agree):

Programs at the local level are well-coordinated with the manufacturer's national programs.

We feel like we never know what we are supposed to be doing or when we are supposed to be doing it for this manufacturer's products. (R)

Our activities with this manufacturer are well-coordinated.

^aAll scales were five-point Likert scales, unless otherwise noted.

^bFormative/Composite scale

[†]Indicates that item was eliminated during scale purification.

t(R) = reverse coded.

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Marketing Literature Review

MYRON LEONARD, Editor
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1. THE MARKETING ENVIRONMENT

1.1 Consumer Behavior

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Word of Mouth. Chip Walker, *American Demographics*, 17 (July 1995), pp. 38–44. [Discussion, Seeking advice, Products, Services, Demographic characteristics, Lifestyles, Sources, Trust, Statistical data.] 1

Reflections on Relationship Marketing in Consumer Markets. Richard P. Bagozzi, *Journal of the Academy of Marketing Science*, 23 (Fall 1995), pp. 272–77. [Commentary on Sheth and Parvatiyar's (1995) article, Specific contributions, Problematic issues, Reducing choices, Mimetic processes, Neglect of efforts to conceptualize what a marketing relationship is, Reciprocity, Moral behavior, Assessment.] 2

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Relationship Marketing in Consumer Markets: Antecedents and Consequences. Jagdish N. Sheth and Atul Parvatiyar, *Journal of the Academy of Marketing Science*, 23 (Fall 1995), pp. 255–71. [Literature review, Propositions, Influences, Personal, Social, Institutional, Impacts, Marketing effectiveness, Future projections.] 4

The Influence of Television Viewing on Public Perceptions of Physicians. Michael Pfau, Lawrence J. Mullen, and Kirsten Garrow, *Journal of Broadcasting and Electronic Media*, 39 (Fall 1995), pp. 441–58. [Literature review, Surveys, Physicians, Households, Comparisons, Variables, Character, Interpersonal style, Physical attractiveness, Power, Competence, Regard for others, Sociodemographics, Assessment, MANOVA.] 5

Family Transitions During Grief: Discontinuities in Household Consumption Patterns. James W. Gentry, Patricia F. Kennedy, Catherine Paul, and Ronald Paul Hill, *Journal of Business Research*, 34 (September 1995), pp. 67–79. [Literature review, Phenomenological inquiry, Sanctification of possessions, Shrines, Charms, Taboos, Disposal of possessions, Family processes, Self-destructive activities, Assessment, Implications.] 6

Norm Extremity and Interpersonal Influences on Consumer Conformity. Dana-Nicoleta Lascu, William O. Bearden, and Randall L. Rose, *Journal of Business Research*, 32 (March 1995), pp. 201–12. [Two experiments, Effects, Interactions, Group size, Expertise, Knowledge, Statistical analysis.] 7

Reasons for Substantial Delay in Consumer Decision Making. Eric A. Greenleaf and Donald R. Lehmann, *Journal of Consumer Research*, 22 (September 1995), pp. 186–99. [Proposed typology, Propositions, Three studies, Self-descriptions, Underlying structure and closure reasons, Importance, Correlations, Conceptual framework, Internal versus external locus of causation, Assessment.] 8

What's in a Name? A Complimentary Means of Persuasion. Daniel J. Howard, Charles Gengler, and Ambuj Jain, *Journal of Consumer Research*, 22 (September 1995), pp. 200–211. [Literature review, Three experiments, Remembrance, Forgetting, Impacts, Purchase behavior, Request compliance, Self-enhancement, Statistical analysis.] 9

Understanding the Effects of Color: How the Correspondence Between Available and Required Resources Affects Attitudes. Joan Meyers-Levy and Laura A. Peracchio, *Journal of Consumer Research*, 22 (September 1995), pp. 121–38. [Literature review, Two experiments, Viewer attitudes, Comparisons, Black-and-white advertisements, Interactions, Thoughts, Positive, Negative, Aspects relevant to advertising claims, Type of ad, Processing motivation, Color highlights, Statistical analysis, Elaboration-likelihood theory.] 10

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Affect Intensity: An Individual Difference Response to Advertising Appeals. David J. Moore, William D. Harris, and Hong C. Chen, *Journal of Consumer Research*, 22 (September 1995), pp. 154–64. [Two experiments, High affect intensity people manifested significantly stronger emotional responses to the emotional advertising appeal and showed no differences in emotional response intensity when exposed to a nonemotional appeal.] 12

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Consumer Involvement and Deception From Implied Advertising Claims. Gita Venkataramani Johar, *Journal of Marketing Research*, 32 (August 1995), pp. 267–79. [Discussion, Hypotheses, Two experiments, Information processing, Response time, Brand and advertising beliefs, Purchase intentions, Invalid references, Impacts, Incomplete comparison, Inconspicuous qualification, Statistical analysis.] 15

1.2 Legal, Political, and Economic Issues

See also 26, 102, 129, 156, 161, 162

Wal-Mart Fights the Battle of Conway. David L. Kurtz, Scott B. Keller, Mike J. Landry, and Daniel F. Lynch, *Business Horizons*, 38 (September/October 1995), pp. 46–50. [Court decisions, State Unfair Trade Practices Acts, Small business, Competition, Lawsuits, Pricing, Loss-leaders, Assessment.] 16

When Cultures Clash: Applying Title VII Abroad. William Scheibal, *Business Horizons*, 38 (September/October 1995), pp. 4–8. [Discussion, Legislation, Impacts, Staffing overseas positions, Legal obligations, Women, Minorities, Cultural biases, Assessment.] 17

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Lights! Camera! Regulation! Kathryn Harris, *Fortune*, 132 (September 4, 1995), pp. 83–86. [Historical discussion, Vertical integration, Media assets, Content/distribution, FCC, Acquisitions and mergers, Entertainment industry.] 19

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Fairness in the Resolution of International Business Disputes. Robert Breitenbach, *International Journal of Purchasing and Materials Management*, 31 (Fall 1995), pp. 32–37. [Discussion, Traditional law, Problems, Supreme Court decisions, Litigation and legislative options, Assessment.] 21

How to Use Forecasts to Establish Damages in Court Cases. Robin T. Peterson, *Journal of Business Forecasting*, 14 (Fall 1995), pp. 22–24. [Discussion, Procedure, Documentation, Uncomplicated, Explanations, Multiple forecasting methods, Surveys, Recommendations on conduct in the courtroom.] 22

The State of Telemarketing Regulation in the States. Rita Marie Cain, *Journal of Direct Marketing*, 9 (Autumn 1995), pp. 76–83. [Survey of state regulators, Registration requirements, Number and type of complaints received, Status of charitable solicitors, Assessment.] 23

Gray Marketing of Pharmaceuticals. Peggy E. Chaudhry and Michael G. Walsh, *Journal of Health Care Marketing*, 15 (Fall 1995), pp. 18–21. [Parallel trade, Pricing, European Court of Justice decisions, Antigay strategies, Assessment.] 24

Intellectual Property: The Double-Edged Sword. Samuel Rabin and Elizabeth Enayati, *Long Range Planning (UK)*, 28 (October 1995), pp. 22–31. [Discussion, Assets, Domestic, International, Impacts, Defensive strategy, Protection, Policy considerations, Characterize target markets, Offensive strategy, Identify direct and indirect barriers to entry, External and internal environment, Resources, Assessment.] 25

1.3 Ethics and Social Responsibility

See also 15, 129, 161, 162, 233

Green and Competitive: Ending the Stalemate. Michael E. Porter and Class van der Linde, *Harvard Business Review*, 73 (September/October 1995), pp. 120–34. [Environmental concerns, International, Industry's private costs, Resource productivity, Innovation, Process and product benefits, Impacts, Regulation, Good versus bad, Assessment, Implications.] 26

The MNCs' Role and Responsibility in Deforestation of Tropical Forests. Michael G. Harvey, *Journal of Macromarketing*, 15 (Fall 1995), pp. 107–27. [Literature review, Environmental concerns, Model presentation, Global political economy, Interactive analysis, Short- and long-term perspectives, Assessment, Recommendations.] 27

The Impact of Green Product Lines on the Environment: Does What They Know Affect How They Feel? Bridget Martin and Antonis C. Simintiras, *Marketing Intelligence and Planning (UK)*, 13 (No. 4, 1995), pp. 16–23. [Literature review, Hypotheses, Con-

sumer survey, Knowledge, Attitudes, Interactions, Statistical analysis.] 28

Buyers Go Green—Slowly. Susan Avery, *Purchasing*, 119 (September 21, 1995), pp. 43, 45. [Survey of buyers, Environmental initiatives, Supplier participation, Recycling, Asset recovery, Source reduction, Examples.] 29

2. MARKETING FUNCTIONS

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The Case for Better Measurement and Reporting of Marketing Performance. Irene M. Herremans and John K. Ryans, Jr., *Business Horizons*, 38 (September/October 1995), pp. 51–60. [Discussion, Accountability, Intangible assets, Changing role of disclosure, Brands, Financial position, Market strategy, Assessment, Recommendations.] 30

Marketing as a Management Style. Clinton O. Longenecker and William K. Meade II, *Business Horizons*, 38 (July/August 1995), pp. 77–83. [Discussion, Organizational behavior, Survey of executives, Perceptions, Customer service, External, Internal, Focus, Assessment, Success, Guidelines.] 31

Offensive Strategies for Defensive Companies. William L. Shanklin, *Business Horizons*, 38 (July/August 1995), pp. 53–60. [Defense contractors, Corporate growth strategies, Problems, Diversification, Technology, New products, Entrepreneurship, Comparisons, Commercial industries, Strategic options, Assessment, Guidelines.] 32

How Newcomers Can Undermine Incumbents' Marketing Strengths. Clayton G. Smith, *Business Horizons*, 38 (September/October 1995), pp. 61–68. [Discussion, Market strategy, Flanking entry, Direct competition, New product concepts, Technologies, New ways of competing, Examples.] 33

The Right Game: Use Game Theory to Shape Strategy. Adam M. Brandenburger and Barry J. Nalebuff, *Harvard Business Review*, 73 (July/August 1995), pp. 57–71. [Discussion, Advantages, Added values, Rule changes, Negotiations, Tactics, Traps, Examples.] 34

Competing on Resources: Strategy in the 1990s. David J. Collis and Cynthia A. Montgomery, *Harvard Business Review*, 73 (July/August 1995), pp. 118–28. [Discussion, Core competencies, Factors, Inimitability, Durability, Appropriability, Substitutability, Competitive superiority, Assessment, Strategic implications.] 35

Realize Your Customers' Full Profit Potential. Alan W. H. Grant and Leonard A. Schlesinger, *Harvard Business Review*, 73 (September/October 1995), pp. 59–72. [Historical discussion, Value exchange, Optimization, Target markets, Positioning strategy, Investment management, Operational processes, Organizational alignment, Examples.] 36

Hot Groups. Harold J. Leavitt and Jean Lipman-Blumen, *Harvard Business Review*, 73 (July/August 1995), pp. 109–16. [Organizational behavior, Characteristics, Preoccupation, Intellectual intensity, Integrity, Exchange, Innovative, Individualists, Leaders, Examples.] 37

Real-Time Marketing. Regis McKenna, *Harvard Business Review*, 73 (July/August 1995), pp. 87–95. [Direct communication with customers, Input, Product development, Performance, Customizing, Technology, Interactive, Examples.] 38

Environmental Turbulence and Organizational Buying: The Case of Health Benefits in South Africa. Michael H. Morris,

Sven Derek Hanson, and Leyland F. Pitt, *Industrial Marketing Management*, 24 (August 1995), pp. 305–15. [Literature review, Model presentation, Survey of corporations, Impacts, Organizational behavior, Buying center structure, Decision-making characteristics, Statistical analysis, Managerial implications.] 39

Sources of Purchasing Managers' Influence Within the Organization. Larry Smeltzer and Sanjay Goel, *International Journal of Purchasing and Materials Management*, 31 (Fall 1995), pp. 2–11. [Literature review, Power, Types, Position, Expert, Resource, Political, Variables, Industry, Firm, Department, CEO, Characteristics of purchasing manager, Assessment, Guidelines.] 40

Advantageous Alliances. George S. Day, *Journal of the Academy of Marketing Science*, 23 (Fall 1995), pp. 297–300. [Commentary on Varadarajan and Cunningham's (1995) article, Skepticism about benefits, Sustainable competitive advantages, Mutual value and commitment, Success rates, Assessment.] 41

International Alliances: Why Now? Johny K. Johansson, *Journal of the Academy of Marketing Science*, 23 (Fall 1995), pp. 301–304. [Commentary on Varadarajan and Cunningham's (1995) article, Alternative organizational forms, Shared distribution, Licensed manufacturing, R&D alliances, Japanese example, Diffusing technology, Market effects, Assessment.] 42

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Applying Laddering Data to Communications Strategy and Advertising Practice. Thomas J. Reynolds and David B. Whitlark, *Journal of Advertising Research*, 35 (July/August 1995), pp. 9–17. [Strategic planning, Orientation, Positive, Reinforce, Refocus, Redefine, Negative, Reframe, Redirect, Remove, Ad Assessment, Examples, Guidelines.] 44

Risk Taking Propensity Among Entrepreneurs, Small Business Owners and Managers. James W. Carland III, James W. Carland, Jr., JoAnn C. Carland, and James W. Pearce, *Journal of Business and Entrepreneurship*, 7 (March 1995), pp. 15–23. [Literature review; Survey using the Risk Scale of the Jackson Personality Inventory; Entrepreneurs, whose goals are profit and growth, have a greater propensity for risk taking than either small business owners, whose primary goals are family needs oriented, or managers; ANOVA.] 45

Outsourcing Marches On. Bill Kelley, *Journal of Business Strategy*, 16 (July/August 1995), pp. 38–42. [Trends, Corporate planning, Factors, Downsizing, Cost, Simplification, Loss of control, Examples, Guidelines.] 46

Signals: A Little Bat Sense. Tom Lloyd, *Journal of Business Strategy*, 16 (September/October 1995), pp. 9–10. [Business growth, Monitoring competition, Countermeasures, Emulation, Niche marketing, Assessment.] 47

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- entry and market share, Assessment, Theoretical and managerial implications.] 49
- Influence Strategies in Buying Centers.** R. Venkatesh, Ajay K. Kohli, and Gerald Zaltman, *Journal of Marketing*, 59 (October 1995), pp. 71–82. [Literature review, Three-dimensional framework, Hypotheses, Survey of purchasing professionals, Coercive intensity, Task orientation, Instrumentality, Requests, Information exchange, Recommendations, Promises, Threats, Legalistic pleas, Effects, Source and target characteristics, Statistical analysis.] 50
- Organizational Market Information Processes: Cultural Antecedents and New Product Outcomes.** Christine Moorman, *Journal of Marketing Research*, 32 (August 1995), pp. 318–35. [Literature review, Conceptual framework, Internal and external orientation, Formal and informal governance, Hypotheses, Survey of firms, Information acquisition and transmission, Conceptual and instrumental utilization, Environmental turbulence, Assessment, LISREL VII.] 51
- Weak Signals Versus Strong Paradigms.** C. K. Prahalad, *Journal of Marketing Research*, 32 (August 1995), pp. iii–viii. [Discussion, Managers, Academics, Market influence, Competitiveness, International, Market shares, New industries, Examples.] 52
- The Managerial Implications of the Learning Organization: A New Tool for Internal Marketing.** Dennis J. Cahill, *Journal of Services Marketing*, 9 (No. 4, 1995), pp. 43–51. [Literature review, Corporate culture, Organizational behavior, Definitions, External focus, Vision, Reciprocal understanding, Systems, Assessment.] 53
- Marketing Futures: Priorities for a Turbulent Environment.** Kamran Kashani, *Long Range Planning (UK)*, 28 (August 1995), pp. 87–98. [International survey of managers, Internal, Tasks, Improving quality, New products, Customer service, Core capabilities, Projections, Assessment, Managerial implications.] 54
- Managing Corporate Image and Identity.** Bernd H. Schmitt, Alex Simonson, and Joshua Marcus, *Long Range Planning (UK)*, 28 (October 1995), pp. 82–92. [Discussion, Four P's, Properties, Products, Presentations, Publications, Stages, Situation analysis, Aesthetics strategy design, Building the collection of design elements, Quality control, Applications.] 55
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- "We Sure as Hell Confused Ourselves," But What About the Customer?** Dennis J. Cahill, *Marketing Intelligence and Planning (UK)*, 13 (No. 4, 1995), pp. 5–9. [Historical discussion, Organizational behavior, Product development, Software packages, Name and attribute changes, Marketing concept, Case study.] 60
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- Western Generic Business and Corporate Strategies: Lessons From the Thirty-Six Chinese Classical Strategies of War.** Low Sui Pheng and Rajeshwar Sirpal, *Marketing Intelligence and Planning (UK)*, 13 (No. 6, 1995), pp. 34–40. [Literature review, Classifications, Superior position, Confrontation, Attack, Confused situations, Gaining ground, Desperate situations, Assessment, Market strategy, Applications.] 64
- What Do You Do to Get Customer Focus in an Organization?** Nigel F. Piercy, *Marketing Intelligence and Planning (UK)*, 13 (No. 6, 1995), pp. 4–11. [Discussion, Business-to-business, Customer relationship scale, Face-to-face contact, Attitudes of employees, Measuring customer satisfaction, Internal, External, Examples.] 65
- Marketing Planning: A Computer Assisted Approach.** Tony Proctor, *Marketing Intelligence and Planning (UK)*, 13 (No. 7, 1995), pp. 7–12. [Discussion, Time management, Advantages, Project evaluation and review technique (PERT), Critical path method (CPM), Time Line for Windows, Assessment.] 66
- Strategy Formulation and Divisional Performance Judgment in Companies: An Empirical Analysis.** R. Sirpal, *Marketing Intelligence and Planning (UK)*, 13 (No. 7, 1995), pp. 31–36. [Literature review, Strategic planning, Survey of multidivisional companies, Decision making, Short- and long-run growth, Selecting new projects, Methods, Setting profit goals, Criteria, Assessment, Many industries.] 67
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What It Will Take to Keep People Hanging Out at the Mall. Kenneth Labich, *Fortune*, 131 (May 29, 1995), pp. 102–106. [Trends, Shopping behavior, Impacts, Interactive merchandising, Atmosphere, Entertainment, Pricing, Success, Examples.] 72

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2.3 Channels of Distribution

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Business Marketing. 80 (August 1995), pp. B2–B15. [Seven articles on business-to-business direct marketing, Terminology, Changes, Telemarketing, Sales force automation, Database marketing, Multichannel selling, Integrated phone and mail strategy, Creative, Interactive media, Guidelines.] 75

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Process aspects of developing relationships between channel members, Assessment.] 81

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The Decision to Purchase a Franchise: A Study of Prospective Franchisees. Patrick J. Kaufmann and John Stanworth, *Journal of Small Business Management*, 33 (October 1995), pp. 22–32. [Literature review, Hypotheses, Data collection, National franchise exposition, Effects, Self-employment experience, Interest in providing employment to family members, Leave to heirs, Statistical analysis.] 86

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The Implications of Time-Based Competition on International Logistics Strategies. Richard T. Hise, *Business Horizons*, 38 (September/October 1995), pp. 39–45. [Competitive advantage, Programs, Objectives, Orientation, Operations, Implementation, Guidelines.] 92

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Just in Time Works, But ... Peter Bradley, *Purchasing*, 119 (September 7, 1995), pp. 34–36, 38. [Discussion, Inventory control, Eliminating waste in the supply chain, Supplier-buyer relationships, Role of *Purchasing*, Materials control, Sequential delivery, Scheduling, Technology, Examples.] 95

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How Do You Know When the Price Is Right? Robert J. Dolan, *Harvard Business Review*, 73 (September/October 1995), pp. 174–76, 178, 180, 182–83. [Discussion, Market strategy, Coordination, Customers' value assessment, Variations, Price sensitivity, Emotional responses, Optimal pricing structure, Competitors' reactions, Monitor transactions, Revenues versus costs, Examples.] 96

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Journal of Business Research, 33 (July 1995), pp. 187–271. [Eight articles on pricing strategy and the marketing mix, Models, Cues, Product evaluations, Market responses, Price-choice relationships, Price bundling, Component pricing, Advertising strategy, Competition, National versus private brands, Quality, Advertising-price sensitivity, Assessment.] 98

Unique Inter-Brand Effects of Price on Brand Choice. Lakshman Krishnamurthi, S. P. Raj, and K. Sivakumar, *Journal of Business Research*, 34 (September 1995), pp. 47–56. [Literature review, Standard logit model and extensions, Comparisons, Empirical application, Estimates, Own- and cross-elasticities, Three product classes, Statistical analysis, Managerial implications.] 99

2.6 Product

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The Salesmen in Your Shopping Cart. Thomas Hine, *Consumers' Research*, 78 (September 1995), pp. 15–19. [Discussion,

Package design, Consumer benefits, Perceived value, Loyalty, Regulation, Impacts, Nutritional information, Assessment.] 102

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The Qualitative Dimension of Brand Equity. Max Blackston, *Journal of Advertising Research*, 35 (July/August 1995), pp. RC-2–RC-7. [Discussion, Brand value, Meaning, Measures, Saliency, Associations, Models, Personality, Attitudes, Brand relationships of a deregulating monopoly, Assessment.] 105

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An Exploratory Analysis of the Impact of Market Orientation on New Product Performance: A Contingency Approach. Kwaku Atuahene-Gima, *Journal of Product Innovation Management*, 12 (September 1995), pp. 275–93. [Literature review, Model presentation, Propositions, Survey of firms, Degree of product newness, Radical versus incremental, Process activities, Competition, Environmental hostility, Stage of product life cycle, Assessment, Managerial implications, Australia.] 108

Technology Strategy in a Software Products Company. Marc H. Meyer and Luis Lopez, *Journal of Product Innovation Management*, 12 (September 1995), pp. 294–306. [Literature review, Core capabilities, Investments, R&D, Product family, Platform extensions and renewal, Derivative product developments, Family maps, Product evolution, Case study.] 109

Drivers of Customer Satisfaction for Software Products: Implications for Design and Service Support. Sunder Kekre, Mayuram S. Krishnan, and Kannan Srinivasan, *Management Science*, 41 (September 1995), pp. 1456–70. [Literature review, Model presentation, Consumer survey, Factors, Reliability, Capability, Usability, Installability, Maintainability, Performance, Documentation, Sensitivity analysis.] 110

Making Industrial New Product Development Market Led. Nigel Coates and Harry Robinson, *Marketing Intelligence and Planning (UK)*, 13 (No. 6, 1995), pp. 12–15. [Study, Multinational corporation, Development process, Stages, Organizational behavior, Culture change, Assessment, Guidelines, Von Hippel, UK.] 111

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Trade Promotions: A Call for a More Rational Approach. Philip Zerrillo and Dawn Iacobucci, *Business Horizons*, 38 (July/August 1995), pp. 69–76. [Discussion, Competition, Impacts, Manufacturers, Retailers, Consumers, Product proliferation, Negotiations, Market strategy, Assessment, Guidelines.] 112

Business Marketing, 80 (July 1995), pp. 13, 15. [Two articles on trade show marketing, In-booth miniseminars, Instructional demos, Technical meetings, Teleconferencing, Vertical markets, Customer relations, Sales prospecting, Preshow mailings, Incentives, Examples.] 113

Trade Show Objectives, Management, and Staffing Practices. John F. Tanner, Jr. and Lawrence B. Chonko, *Industrial Marketing Management*, 24 (August 1995), pp. 257–64. [Survey of contract manufacturers, Exhibiting goals, Staff composition, Formal and informal training, Statistical analysis, Managerial implications.] 114

Word-of-Mouth Communication: Causes and Consequences. Betsy Gelb and Madeline Johnson, *Journal of Health Care Marketing*, 15 (Fall 1995), pp. 54–58. [Discussion, Antecedents, Market mavens, Emotional reactions, Complaining, Marketing mixes, Consumer behavior, Comparisons, Advertising, Assessment, Guidelines.] 115

The Relationship Between Retail Price Promotions and Regular Price Purchases. Francis J. Mulhern and Daniel T. Padgett, *Journal of Marketing*, 59 (October 1995), pp. 83–90. [Literature review, Hypotheses, Data collection, Shoppers, Effects, Expenditures, Profitability, Assessment, Implications.] 116

2.8 Advertising

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Advertising Recognition and Recall by Age—Including Teens. Joel S. Dubow, *Journal of Advertising Research*, 35 (September/October 1995), pp. 55–60. [Literature review; Market segments; Data from three copy-testing companies; Measures; Young adults remember advertising better than older adults, and teens remember advertising better than young adults.] 121

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Enjoyability, Involvement with advertising, Effects, Recall, Persuasion, US, UK.] 122

The Games Copywriters Play: Conflict, Quasi-Control, A New Proposal. Arthur J. Kover and Stephen M. Goldberg, *Journal of Advertising Research*, 35 (July/August 1995), pp. 52–63. [Discussion, Hypotheses, Personal interviews, Advertising copywriters, Attitudes, External and internal uncertainty, Controls, Enforced cooperation, Pressure for Modifications, Taking creative output in its earliest stage, Ownership issues, Assessment, Success, Guidelines.] 123

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The Use of Black Models in Specialty Catalogs. Elizabeth J. Wilson and Abhijit Biswas, *Journal of Direct Marketing*, 9 (Autumn 1995), pp. 47–56. [Literature review, Content analysis, Media comparisons, Catalog type, Merchandise price, Lighter versus darker complected black models, Statistical analysis, Implications for direct marketers.] 126

The Relationship Between Cartoon Trade Character Recognition and Attitude Toward Product Category in Young Children. Richard Mizerski, *Journal of Marketing*, 59 (October 1995), pp. 58–70. [Literature review, Hypotheses, Experiment, Product picture board format, Associations, Positive, Negative, Impacts, Age groups, Statistical analysis.] 127

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Face-to-Face Selling: Making It More Effective. John J. Withey and Eric Panitz, *Industrial Marketing Management*, 24 (August 1995), pp. 239–46. [Survey of sales engineers, Customer types, Government, Large commercial developers, Small single-order, Customer attributes, Cues, Adaptability, Differences, Skills, Assessment, Managerial implications, Construction industry.] 130

Sex Differences in Ingratiation Behavior: An Investigation of Influence Tactics in the Salesperson-Customer Dyad. David Strutton, Lou E. Pelton, and James R. Lumpkin, *Journal of Business Research*, 34 (September 1995), pp. 35–45. [Literature review, Hypotheses, Survey of industrial sales organizations, Classifications, Assertive, Self-enhancement, Self-promotion, Favor-rendering, Defensive, Attitudinal conformity, Court and counsel,

Other enhancement, Behavioral conformity, Statistical analysis, Managerial implications.] 131

Sales Productivity of Insurance Agents During the First Six Months of Employment: Differences Between Older and Younger New Hires. Jacqueline C. Landau and James D. Werbel, *Journal of Personal Selling and Sales Management*, 15 (Fall 1995), pp. 33–43. [Literature review, Hypotheses, Two surveys, Comparisons, Sales prospecting, Methods, Information-seeking, Joint sales calls, Regression analysis, Implications.] 132

2.10 Sales Management

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Links Among Satisfaction, Commitment, and Turnover Intentions: The Moderating Effect of Experience, Gender, and Performance. Frederick A. Russ and Kevin M. McNeilly, *Journal of Business Research*, 34 (September 1995), pp. 57–65. [Literature review, Hypotheses, Survey of sales reps and sales managers, Satisfaction dimensions, Promotion, Income, Supervisor, Work, Coworkers, Joint moderator effects, Statistical analysis.] 134

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Sales Training: Executives' Research Needs. Earl D. Honeycutt, Jr., John B. Ford, and C. P. Rao, *Journal of Personal Selling and Sales Management*, 15 (Fall 1995), pp. 67–71. [Survey, Current usefulness of academic research and the need for additional research in 34 sales training subareas, Assessment.] 136

Examining the Bases Utilized for Evaluating Salespeople's Performance. Donald W. Jackson, Jr., John L. Schlacter, and William G. Wolfe, *Journal of Personal Selling and Sales Management*, 15 (Fall 1995), pp. 57–65. [Survey of sales managers, Comparisons of 1983 and 1994 studies, Results, Sales, Market shares, Accounts, Profits, Orders, Calls, Selling expense, Time utilization, Quantitative and qualitative factors, Assessment, Implications.] 137

Behavior- and Outcome-Based Sales Control Systems: Evidence and Consequences of Pure-Form and Hybrid Governance. Richard L. Oliver and Erin Anderson, *Journal of Personal Selling and Sales Management*, 15 (Fall 1995), pp. 1–15. [Literature review, Management styles, Criteria, Sales revenue, Sales process, Survey of salespersons, Perceptions, Effects, Affective, Cognitive, Intermediate positions, Statistical analysis, Implications.] 138

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The Changing Role of the Sales Force. David W. Cravens, *Marketing Management*, 4 (Fall 1995), pp. 48–57. [Discussion, Success indicators, Customer relations, Organizational change, Teams, Management practices, Performance evaluation, Removing hurdles, Channel selection, Information technology, Assessment.] 140

3. SPECIAL MARKETING APPLICATIONS

3.1 Industrial

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How American Manufacturers Are Facing the Global Marketplace. Kenneth Chilton, *Business Horizons*, 38 (July/August 1995), pp. 10–19. [Survey, Competition, Threats, Opportunities, Strategic responses, Changes, Organizational structure, Human resource development, Assessment.] 141

Greening the Manufacturing Function. Joseph Sarkis and Abdul Rasheed, *Business Horizons*, 38 (September/October 1995), pp. 17–27. [Discussion, Factors, Waste reduction, Remanufacturing, Recycling and reuse, Product development life cycle, Operational stages, Project planning and management, Environmental performance measures, Implementation, Japan, Western Europe, US.] 142

The New Logic of High-Tech R&D. Gary P. Pisano and Steven C. Wheelwright, *Harvard Business Review*, 73 (September/October 1995), pp. 93–105. [Manufacturing-process innovation, Benefits, Accelerated time to market, Rapid ramp-up, Enhanced product functionality, Extended proprietary position, Competition, Changes, Assessment, Example.] 143

Buyer Reactions to Product Stockouts in Business to Business Markets. Paul A. Dion and Peter M. Banting, *Industrial Marketing Management*, 24 (August 1995), pp. 341–50. [Model presentation, Hypotheses, Personal interviews and mail survey, Impacts, Lost sales, Production disruptions, Buyers displayed more loyalty to brand names than to suppliers.] 144

Activity-Based Costing for Purchasing Managers' Cost and Pricing Determinations. John C. Lere and Jayant V. Saraph, *International Journal of Purchasing and Materials Management*, 31 (Fall 1995), pp. 24–31. [Discussion, Techniques, Comparisons, Traditional costing, Uses, Reducing costs, Collecting data, Assessment, Implications.] 145

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jects, Business-based joint ventures, Effects, Economic performance, Technical quality, Assessment.] 150

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Alumni Affinity Credit Cards: Making the Relationship Work. Steve Worthington and Suzanne Horne, *International Journal of Bank Marketing (UK)*, 13 (No. 5, 1995), pp. 24–30. [Discussion, Fund-raising techniques, Universities, Model presentation, Survey

of alumni officers, Relationship development process, Phases, Awareness, Exploration, Expansion, Commitment, Dissolution, Benefits, Costs, Assessment, UK.] 160

Exploring the Dimensions of Consumer Privacy: An Analysis of Coverage in British and American Media. Lisa A. Petrison and Paul Wang, *Journal of Direct Marketing*, 9 (Autumn 1995), pp. 19–37. [Literature review, Data collection, Comparisons, Newspapers, Topics, Interactional, Informational, Infringements, Reasons, Cultural aspects, Statistical analysis, Implications for direct marketers.] 161

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- Foreign Access to the Japanese Market: Structural and Economy-Wide Factors.** Thomas C. Lowinger, Anil K. Lal, and Wiboon Arunthanes, *Journal of Macromarketing*, 15 (Fall 1995), pp. 50–65. [Literature review; Model presentation; Data collection; Effect of changes in prices, income, and nontariff barriers on Japanese imports before and during the period of yen appreciation; Statistical analysis; Implications.] 175
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Agency Theory: A Framework for Analyzing Physician Services. Manuel C. Pontes, *Health Care Management Review*, 20 (Fall 1995), pp. 57–67. [Discussion; Application; Design of physician selection procedures, compensation contracts, and control systems for the regulation of physician practices; Assessment.] 185

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Credit services and terms, Promotion methods, Qualifying applicants for credit, Assessment, Recommendations, Turkey.] 187

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Beyond Patient Satisfaction. Paul D. Turner and Louis G. Pol, *Journal of Health Care Marketing*, 15 (Fall 1995), pp. 45–53. [Model presentation, Quality measurement, Clinical outcomes, Access to health care services, Personnel dimensions, Macro- and micro-level contexts, Integrating perspectives, Assessment.] 190

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International Tourism: An Assessment and Overview. Russell W. Belk and Janeen Arnold Costa, *Journal of Macromarketing*, 15 (Fall 1995), pp. 33–49. [Historical discussion, Motivations, Power imbalance, Developed and less-developed countries, Positive and negative effects, Guidelines.] 192

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On Bizarreness in the Entertainment Industry. Paul Sergius Koku, *Journal of Services Marketing*, 9 (No. 4, 1995), pp. 19–30. [Discussion, Cultural aspects, Model on consumption of the arts, Satisfaction maximization, Indifference map, Transaction costs, Celebrities, Market strategy, Philanthropy, Selling variety, Out-of-character activities, Propositions, Assessment, Guidelines.] 196

The Marketing of Financial Services to Independent Distributors. Angus Laing, *Journal of Services Marketing*, 9 (No. 4, 1995), pp. 6–18. [Theoretical discussion, Survey of financial advisors, Financial strength, Experience, Investment performance, Image, Relationship marketing, Assessment, UK.] 197

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technology, Outsourcing, Teams, Process reengineering, Problems, Benefits, Assessment, Recommendations, North America.] 198

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Professional Service Organizations and Focus. Curtis P. McLaughlin, Shitao Yang, and Roland van Dierdonck, *Management Science*, 41 (July 1995), pp. 1185–93. [Discussion, Benefits and disadvantages of focusing, Value chain, Economics of scope, Application, Outpatient surgery centers.] 200

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Understanding the Socialized Body: A Poststructuralist Analysis of Consumers' Self-Conceptions, Body Images, and Self-Care Practices. Craig J. Thompson and Elizabeth C. Hirschman, *Journal of Consumer Research*, 22 (September 1995), pp. 139–53. [Model presentation, Process-oriented themes, Ideology of control, Normalization and problemization, Operation of the disciplinary gaze, Systematic manifestations are illustrated, Theoretical implications.] 201

Optimal Starting Times for End-of-Season Sales and Optimal Stopping Times for Promotional Fares. Youyi Feng and Guillermo Gallego, *Management Science*, 41 (August 1995), pp. 1371–91. [Literature review, Model presentation, Dynamic pricing, Yield management, Intensity control, Finite horizon, Assessment.] 202

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Managing Market Information. Peter Francese, *American Demographics*, 17 (September 1995), pp. 56–59, 62–63. [Trends, Models, Demographics, Psychographics, Media preferences, Purchase behavior, Changes, Personal enterprises, Technology, Management expertise, Assessment.] 206

The Rural Rebound Revisited. Kenneth M. Johnson and Calvin L. Beale, *American Demographics*, 17 (July 1995), pp. 46–54. [Trends, Gains in migration, Commuters, Retirees, Fewer children, Job growth, Impacts, Large shopping malls, Catalog and on-line retailers, Statistical data.] 207

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Stimulating Response to Market Surveys of Business Professionals. Kenneth C. Schneider and James C. Johnson, *Industrial Marketing Management*, 24 (August 1995), pp. 265–76. [Survey of professional managers, Impacts, Monetary reward, Survey sponsorship, Type of appeal, Interactions, Statistical analysis, Managerial implications.] 212

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Diagnosing Measurement Equivalence in Cross-National Research. Michael R. Mullen, *Journal of International Business Studies*, 26 (Third Quarter 1995), pp. 573–96. [Literature review, Empirical techniques, Multiple Group LISREL, Optimal Scaling, Application, Assessing data from a large survey of workers, US, Japan.] 221

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5. OTHER TOPICS

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Women and Men, Morality and Ethics. Leslie M. Dawson, *Business Horizons*, 38 (July/August 1995), pp. 61–68. [Literature review, Comparisons, Scenarios given to marketing and sales managers, Themes, Breaking promises, Personal honesty, Sharing product knowledge, Dealing with problem customers, Providing gifts, Handicapped hiring, Assessment.] 233

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review, Target markets, Competition, Market positioning, Promotion and publicity, Course offerings, Pricing, Assessment.] 238

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Book Reviews

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Trust: The Social Virtues and the Creation of Prosperity

By Francis Fukuyama (New York: The Free Press, 1995, 457 pages, \$25.00)

To fully appreciate this book, the reader must be aware that Francis Fukuyama is a modern day disciple of the early nineteenth century Prussian idealist, George Wilhelm Friedrich Hegel. In *Philosophy of History* (1881), Hegel argues that history is a process that has a rational end and that the task of the philosopher is to discover that end. In *Das Kapital* (1909), Karl Marx develops his notion of dialectical materialism from Hegel's idea that history moves purposefully (or dialectically) from thesis, to antithesis, to synthesis. Marx concludes that the historical process ends with the overthrow of the Bourgeoisie by the workers under the aegis of a proletarian dictatorship and the establishment of a classless society. Ironically, in his previous book *The End of History and the Last Man*, Fukuyama (1992) argues that, in actuality, the historical process ended with the collapse of the Soviet Union and the emergence of a global consensus whereby democracy and capitalism were the only viable systems in the advanced nations. It could even be argued with some justification that Fukuyama, a former State Department analyst, was the guiding spirit underlying President Bush's "New World Order."

Fukuyama's latest work, *Trust: The Social Virtues and the Creation of Prosperity*, is both a sequel and a complement to his previous work. It begins with the assertion that the collapse of the Clinton national health care plan was proof positive of his earlier thesis whereby the concepts of liberal democracy and free enterprise have triumphed over both Soviet-style centralized planning and Western European-style social engineering. He argues, however, that not all societies in the post-cold war era will be equally prosperous. Drawing on German sociologist Max Weber and French historian and politician Alexis de Tocqueville, Fukuyama argues that trust (which he defines as the degree to which people believe others act responsibly and for the common good) is a critical factor in determining the economic success of a country. Fukuyama's book should be of interest to marketing scholars and practitioners because of how he develops this notion of trust. In particular, because, as Fukuyama argues, the level of trust in a society has a direct bearing on the architecture of exchange, marketers can better understand the various relations between producers and consumers of goods, services, and ideas in various societies, by critically examining the nature of trust.

According to Fukuyama, societies high in trust will be able to create organizations intermediary to the family and the firm (e.g., Boy Scouts, Elks, Sierra Club). Membership in these civic organizations psychologically prepares people to work in the large firms that are capable of amassing capital and developing critical technologies.

On the other hand, societies low in trust will be less able to create large firms (because they lack the intermediary organizations) except through extraordinary means, such as the imposition of onerous regulations monitored by cumbersome bureaucracies. Moreover, in general, the small family-run businesses and large state-sponsored firms of low-trust societies will be unable to com-

pete successfully against the large flexible firms from high-trust societies.

What determines the level of trust that accumulates into the social capital capable of producing economic success? Culture. Thus, Fukuyama attempts to provide a link between those social conservatives who believe America is in a state of moral decline and those economic conservatives who worry about the effects of the size and regulatory power of the federal government on the economy.

In the second and third parts of the book, Fukuyama provides the empirical evidence to support his thesis. These consist of detailed case studies of four low-trust societies (China, southern Italy, France, and Korea) and two high-trust societies (Japan and Germany). The fourth part of the book deals with the United States, which Fukuyama believes was at one time a high-trust society that now appears to be degenerating into a low-trust society.

Unlike his fellow conservatives, Fukuyama believes that at some point "family values" can be detrimental to economic growth. For example, the inability to form intermediate organizations in China is due, he argues, to centuries of political instability resulting in the family being the only reliable means of support. Furthermore, the principles of Confucianism encourage obedience to the father, large families in which the inheritance is divided equally among the sons, and a distrust for strangers. Consequently, a family-run business seldom grows or lasts beyond a single generation because of the inevitable feuding among the heirs and a reluctance to bring in outside professional managers (e.g., Wang Laboratories). Similarly, Fukuyama also observes that there are few Chinese brand names, because small and transient firms are usually incapable of developing the necessary economies of scale and scope in marketing.

Fukuyama argues that there is an analogy between the strong families of southern Italy and China; however, he attributes the lack of intermediate organizations in southern Italy to suppression by authoritarian rulers supported by the Roman Catholic Church. This stands in direct contrast to the more prosperous regions of northern and central Italy, which experience a greater degree of political freedom and are now home to many famous international firms (e.g., Olivetti). Fukuyama also observes that criminal gangs, which act as extended families through blood oaths, are a characteristic of low-trust societies such as China, southern Italy, post-Soviet Russia, and the American inner city. Obviously, these type of intermediate organizations are not conducive to economic development.

Like southern Italy, France experienced centuries of authoritarian rule that discouraged the formation of intermediate organizations. France also has strong class divisions, making cooperation difficult and explaining in large measure, the widespread tensions between management and labor today. Furthermore, the French people who could accumulate a little capital often used it to purchase titles of nobility or official posts rather than make further investments. That tradition is now reflected in the high prestige of a career in the civil service, as well as an aversion to risk-taking. Fukuyama observes that intervention by the French government in the form of an industrial policy was undertaken because the private sector has not been dynamic, innovative, or entrepreneurial. Unfortunately for France, the results have been dismal.

South Korea, a low-trust society with few intermediate organi-

zations, has proven to be something of an exception to the rule. Fukuyama attributes the success of South Korea in creating successful international firms to several unusual factors. These include the influence of Japan and the United States; mandatory military service, which prepares people for working in the large firms; an ethical system based on a combination of Christianity and a less severe application of Confucian principles; and a successful industrial policy. However, Fukuyama doubts that South Korea's successful industrial policy is applicable to other nations.

Fukuyama attributes the success of large firms and *keiretsu* in Japan to hierarchical and paternalistic voluntary associations that are of particular importance in traditional arts and crafts. Likewise, in Germany, a medieval guild tradition that lasted into the nineteenth century and continues in the form of an apprenticeship system prepares people for working in large firms. In the United States, Fukuyama argues that the presence of numerous Protestant sects encouraged people to form other types of civic organizations. This made it possible to form large firms and trusts after the Civil War.

Fukuyama believes that America is squandering its social capital because of an explosion in individual rights in the same way that it is squandering its physical capital through low savings rates. The result has been a breakdown both in family and civic organizations, accompanied by a kind of tax in the form of rising crime and civil litigation. Unfortunately, solving the problem is extremely difficult, because accumulating social capital is a cultural process not well understood by governments.

What are marketers to make of all this? In actuality, Fukuyama's thesis with respect to the importance of civic organizations is not entirely original. In *Reconstruction in Philosophy* (1920), John Dewey expresses his distrust for the state and advocates that the majority of work in society should be performed by voluntary associations. Ironically, Dewey was originally a disciple of Hegel before his conversion to pragmatism. He believed that a multiplicity of organizations that cut across political boundaries would serve to reconcile individualism with common action. Likewise, Fukuyama believes that trust, which makes the creation of voluntary associations feasible, is the true wealth of nations.

Although I am highly intrigued with the author's analysis and share his deep concerns about the current state of American society, I must point out several flaws in the book. First, the author has a dry and ponderous style, and following some of his arguments requires much effort from the reader. Details and references to other studies not pertinent to the main argument could easily have been relegated to footnotes.

Second, there are problems with Fukuyama's methodology. Since Aristotle collected the constitutions of 158 cities to determine which type of government was most capable of providing its citizens with the opportunity for leading the "good and honorable life," the case study has had a long tradition as a primary research tool. Unfortunately, Fukuyama uses only a limited number of cases without clearly defining their parameters. For example, he accuses certain organizations (e.g., American Civil Liberties Union, National Rifle Association) of placing their interests above those of the surrounding community under the banner of upholding individual rights. However, Fukuyama does not explain at what point an organization crosses the threshold between being an asset and becoming a liability to the community. It appears to be a judgment call on his part. Consequently, it would be difficult to generalize his conclusions or even replicate his work.

Third, the author's historical and cultural scope is so vast that errors of fact and interpretation are unavoidable. In the preface, Fukuyama acknowledges that people who are more familiar with particular societies under discussion would find numerous exceptions and objections to his sweeping generalizations. Although he apologizes in advance, he seriously weakens his main arguments by not limiting himself.

Fourth, the author draws some dubious conclusions when he compares the institutions of countries. For example, in Chapter 19, Fukuyama claims that German noncommissioned officers have more authority than their American counterparts. This might be true if he is referring to the 20-year-old petty officer third class or lance corporal. However, it is absurd if applied to master chief petty officers or master gunnery sergeants, each of whom has 30 years of experience and is the backbone of the Navy and Marine Corps. Such generalizations are disturbing and make me wary about accepting some of his interpretations in other areas with which I am less familiar (e.g., Confucianism). What this book desperately needed was a panel of manuscript reviewers, as well as a good editor.

Assuming that Fukuyama is correct in his overall conclusions, marketers have good reason to be concerned about the level of trust in a society. Consider the routine purchase of convenience goods such as bread or gasoline. The consumer, as well as each member of the channel of distribution, assumes that the stated ingredients and the weights and measurements are accurate. If these assumptions cannot be made, then the various exchanges will not take place or will only take place under tightly controlled conditions in which the idea of relationship marketing becomes inconceivable. Also, Fukuyama's book may serve as a useful reminder to marketers that they are not merely bystanders at the mercy of societal forces, but are in a unique position to influence the level of trust. It is not difficult to imagine what the cumulative effect of numerous incidents of poorly designed low-quality products promoted through deceptive advertising would be on the level of trust in a society.

Before coming to a final conclusion about *Trust: The Social Virtues and the Creation of Prosperity*, it may be useful to remember that Fukuyama is a philosopher, not a social scientist. He therefore must be judged according to the standards of the philosopher rather than those of the scientist. According to the historian Will Durant (1961, p. xxvii), the philosopher deals with those problems that are not open to the methods of science (e.g., good and evil, beauty and ugliness, life and death):

Science is analytic description, philosophy is synthetic interpretation ... the philosopher is not content to describe the fact; he wishes to ascertain its relation to experience in general, and thereby to get at its meaning and its worth; he combines things in interpretative synthesis; he tries to put together, better than before, that great universe-watch which the inquisitive scientist has analytically taken apart.

If I accept Durant's explanation of the differences between philosophy and science, then I must conclude that Fukuyama has made an important intellectual contribution by introducing the concept of social capital and the idea that a healthy community life is a prerequisite to economic prosperity both at home and abroad.

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Where the Suckers Moon: An Advertising Story
By Randall Rothenberg (New York: Alfred A. Knopf, 1994, 477 pages, \$25 in hardback, \$14 in paperback)

How Should Firms Select Advertising Agencies?

In his book, *Where the Suckers Moon: An Advertising Story*, Randall Rothenberg, a former advertising columnist for the *New York Times*, describes how Subaru of America selected a new agency in 1991. This behind-the-scenes account is made possible by his sitting in on the meetings that led to the selection of Wieden and Kennedy to handle Subaru's \$75 million account. The book is thus a first-hand look at how an agency makes a proposal to a client. Rothenberg also reports on the subsequent relationship between Wieden and Kennedy and Subaru. Along the way, he describes the advertising industry in general. The book should be of interest to those in the advertising business, those who hire advertising agencies, students contemplating a career in advertising, and teachers of advertising.

Rothenberg's book is a delight to read, and it provides a singular opportunity to compare what the agencies delivered in the Subaru proposals with what clients should expect. On the negative side, the book lacks structure so that it is difficult to follow the time sequencing or understand how events were related.

I propose a set of agency selection criteria and use this to help evaluate Rothenberg's account. The criteria are drawn from my 15 years of experience in teaching advertising at the Wharton School. The focus of this teaching is normative (how *should* firms advertise), not descriptive (how they advertise).

Rothenberg's account implies that the industry is out of touch with its clients' needs. The major problem is that some agencies view advertising as art, whereas their clients view it as a way of selling products. It is not clear these views are even related. Indeed, according to Polonsky and Waller (1995), it is not even clear that award-winning advertisements increase an agency's billings.

Selecting a New Agency

Typically, large accounts are decided by screening a large set of agencies down to a manageable set, conducting initial interviews to further narrow the field, and inviting formal proposals from few finalists. The process of selecting a new advertising agency at Subaru began in April 1991 with a scan list of 150 large agencies (out of the 5000 agencies in the *Red Book*). Some of these 150 were immediately eliminated because they already had car accounts or because their skill sets were too narrow. Using what seemed to be a relatively unstructured process, Subaru whittled the list down to 28 agencies. Each of these was sent a 36-item questionnaire probing their abilities and their interest in the Subaru account. They were given three days to respond; 24 of the 36 did. Following what seemed to be an unstructured group process, Subaru cut the list to 10. At this point, Subaru marketing representatives scheduled a three-hour "credentials meeting" with each of the 10 agencies. In preparation, Subaru asked each agency to prepare two case histories, one involving one of their new product introductions, the other a new positioning campaign for an established product. In preparation for this meeting, Subaru (p. 26) prepared an eight-factor rating sheet to evaluate each agency (e.g., "How difficult was the challenge facing the agency?"). After this meeting, six agencies were asked to make a three-and-a-half hour pitch for the account. These proposals were reviewed by a five-member panel using an unstructured process (Chapter 11).

When advertising agencies try to convince firms to hire them, they have two advantages over the client. First, they have created many advertising campaigns, whereas the client typically has not

created any (though the client may have been involved with the implementation of advertising campaigns). Second, they are supposedly experts in persuading people. These presumed advantages affect the relationship between the advertiser and the client. In particular, they can influence what criteria are used for the selection of an agency.

Most agencies seem to compete for clients on the basis of their creativity. They stress the "Big Idea." According to Rothenberg (p. 112), the theory of the Big Idea is that consumers are bored and irrational when deciding what to buy. He quotes Leo Bogart, who says that the Big Idea is "in the realm of myth, to which measurements cannot apply." Is the client able to judge the quality of the creativity and the Big Idea? I suspect not. Such an assessment is likely to be unreliable and invalid. What firms should do is ask the agency to provide a proposal that is relevant to their needs. This implies that they should provide the agency with an explicit set of criteria for evaluation. I present a set of ideal criteria that can be used to evaluate how Subaru went about its agency selection problem.

Ideal Selection Criteria: What the Clients Should Get

The subsequent list helps assess Subaru's strategy and tactics. One assumption behind this list of criteria is that it is easier for an advertiser to evaluate the procedures an agency uses than to judge the advertisements themselves. Another assumption is that a structured approach is superior to an unstructured one. Thus, the "chemistry" of the interaction is expected to harm the quality of the selection. This somewhat counter-intuitive assumption is drawn from research in other areas, such as selection problems. For example, Meehl (1956, p. 263) concluded that "the first rule to follow in trying to predict the subsequent course of a student's or patient's behavior is carefully to avoid talking to him, and that the second rule is to avoid thinking about him."

The criteria, drawn largely from what experts said about advertising and effective problem solving, were reviewed by five experts (with over 120 years of cumulative experience in advertising) and judged to be comprehensive. These experts also weighted the relative importance of each item; I provide the average importance in parentheses.

Strategy

- S1. *Planning techniques*: Do they (the advertising agency) know how to plan a campaign effectively? For example, do they provide an effective time-line for developing a campaign? Do they consider alternative strategies? Do they have contingency plans? Did they plan this meeting effectively? Much evidence exists that formal planning techniques improve the performance of an organization. Are they aware of this research and of the recommended procedures? (9%)
- S2. *Objectives*: Do they focus on your primary objectives? Do they know how to assess the effectiveness of advertising and determine whether the advertising is meeting these objectives? Can they tell whether the advertising is providing a good return on investment? What are the measurable outcomes? And what level of success might be expected for each outcome? Will they provide any guarantees on the success of the campaign? Is their own compensation tied to your (the client's) success? (11%)
- S3. *Target market research*: If it is necessary to obtain additional information about the target market, do they know how to design and evaluate studies so that they relate effectively to the advertising campaign? Do they know how to use survey research methods effectively? An examination of one of their prior reports might be useful here. Are they aware of the research in this area? (One way to assess this would be to compare one of their target market research reports with the research-based advice provided by

Dillman [1978].) If they subcontract their work, is the work well done? (9%)

- S4. *Persuasion research findings*: Are they familiar with the extensive research findings on how to persuade people? If yes, how do they ensure that this research is brought to bear on the advertising campaign? Do they have good grounds for violating this research (e.g., research on the specific product may show that it is an exception from the general principles)? (4%)

Tactics

- T1. *Creativity techniques*: What techniques and procedures do they use to enhance creativity? For example, when they say they used "brainstorming," does this merely mean that a group of people sat around and tossed out ideas, or does it mean that they actually followed the highly structured brainstorming procedure? Although you may not be able to judge the creativity level of a proposal, you should be able to judge whether the procedures seem to be useful; therefore, you should ask the agencies to explain their procedures. It is difficult to predict whether just because a group came up with a creative idea for the proposal, it also will come up with a creative advertising idea. Worse yet, it is difficult to judge the creativity of a given idea. But there is considerable evidence that structured creativity techniques are superior to unstructured group processes (for a recent summary of this research, see Valacich, Dennis, and Connolly 1994). (16%)
- T2. *Copy alternatives*: What copy alternatives would they consider and why? If they base this on the Big Idea, what alternative "big ideas" were considered? And why was this Big Idea selected? (9%)
- T3. *Copy testing*: What procedures would they recommend to test and select the most effective of their copy alternatives? For example, are the procedures free of bias, replicable, and valid? (7%)
- T4. *Media alternatives*: What media alternatives would they consider and why? (9%)
- T5. *Media testing*: How would they determine the optimal amount to spend on an advertising campaign? What procedures would they recommend to select the most effective media? Do they focus on the objectives? For example, how would they calculate return on investment by media? (Although difficult, a formal attempt is likely to be more accurate than a guess.) (7%)
- T6. *Capabilities of the team*: What are the capabilities of the people who will be working on the proposed account? Do they have any conflicts of interest? Do they have a complete list of clients served so that failed, as well as successful, relationships might be examined? (15%)
- T7. *Taste, legal, and ethical guidelines*: What procedures does the agency take to protect your company from offending interest groups—from boycotts, legal action, or ethical consequences? For example, do they have a formal review board that has legal expertise and recognizes the interests of groups that might be affected? Do they have a written code of ethics that they formally apply to each campaign? (4%)

Analysis of the Criteria

The experts put about one-fourth of the weight on strategy elements and the rest on tactics. Although no single criterion was dominant, the most heavily weighted (consistent with the results of Henke's [1995] survey on why firms switch agencies) was creativity techniques (T1) at 16%.

Although the experts rated persuasion research (S4) as the least important item, I disagree. Extensive research findings over the past half century suggest which strategies are likely to persuade in which situations. Much of this evidence is consistent with what advertisers believe, such as research on when to distract the consumer—when the product is bad. (Rothenberg cites the old adage that "nothing will kill a bad product faster than good advertising.") But many of these research findings conflict with advertisers' beliefs or add knowledge about the conditions under which the guidelines apply. Examples include the conditions under which a two-sided appeal works, how to use comparative advertisements, how and when to use humor, and when to use long copy. Hence, people who are aware of these research findings and are assisted in applying them may produce more effective advertising than those who are not.

What the Clients Got in the Subaru Case

Using the list of 11 ideal criteria, I judged Rothenberg's description of the offers by the finalists for the Subaru account.

Strategy at Subaru. The planning process (S1) was completely ignored. In retrospect, Subaru regarded this as a serious omission (p. 401). Objectives (S2) appeared to receive little serious attention by the agencies. Typically, instead of a detailed examination of objectives, Subaru was offered a "positioning statement," which Rothenberg (pp. 116–17) describes as "a (usually one-sentence) description of where inside consumers' heads the client's company, service or product should be made to fit." The winning firm, Wieden and Kennedy, stated this as, To "position the Subaru as the only clear alternative to the mainstream of America car purchasing" (pp. 116–17).

It seems to be common for agencies to ignore objectives. According to studies by Britt (1969) and Helgesen (1992), it is rare for agencies to provide operational objectives, benchmarks, time limits, or even a logical connection to marketing objectives. Rothenberg said that some agencies had provided specific sales objectives in the written materials (the "leave-behinds") but that the agencies paid little attention to these written documents.¹

The agencies did not provide target market research (S3) that would enable the client to make forecasts. Instead, consistent with trends in the industry, they used unstructured interviews and focus groups. Nor was attention given to persuasion research (S4). Again, according to Helgesen (1994), this is not unusual. Although there is a rich literature on persuasion, it is seldom used in a systematic way. Also, there are so many factors to consider in developing an advertisement that even a person who is familiar with all the literature would have trouble applying the knowledge.

Tactics at Subaru. In their proposals, the agencies ignored creativity techniques (T1). Perhaps they assumed the client would be more impressed with the results than with a description of how they were achieved. Most of the proposals stressed the copy and the Big Idea behind the copy (T2 was addressed). This Big Idea was frequently surrounded with words such as "strategic thinking." (I do not know what they meant by this term—possibly that they talked about some marketing ideas.) No testing had been done, nor was any proposed (T3). According to Rothenberg (p. 22), this lack of interest in research represents a trend in the advertising industry.

Media (T4) is less exciting than copy, and it generally received little attention in the proposals. However, Wieden and Kennedy turned this to their advantage. As the most popular advertising agency in the country at the time (based largely on their Nike advertisements), they were expected to stress their creativity. But they led off with their media strategy and argued against network advertising. This sounded good to a company that had spent over \$100 million in the early 1980s on a mass network advertising campaign that raised Subaru's unaided recall of its slogan "inex-

¹I received this information from a personal communication with Rothenberg.

TABLE
Ratings of the Subaru Proposals

Strategy	Rating*
S1 Planning Techniques	1
S2 Objectives	1
S3 Target Market Research	2
S4 Persuasion Research	1
Tactics	Rating*
T1 Creativity Techniques	1
T2 Copy Alternatives	9
T3 Copy Testing	1
T4 Media Alternatives	5
T5 Media Testing	1
T6 Capabilities of the Team	8
T7 Taste/legal/ethical Guidelines	1

*Scale: 1 = poor; 10 = excellent.

pensive and built to stay that way" from 1.7% to only 3.0%. None of the agencies did testing nor did they propose any testing of media effectiveness (T5).

The agencies stressed their capabilities and listed prior clients who apparently were satisfied (T6). They also devoted energy to gimmicks to advertise their talents, such as T-shirts with the slogan "Subaru ... Cars that can" (p. 143), and penknives engraved with the agency name on one side and "Subaru of America" on the other. No explicit attention was given to taste or to legal and ethical guidelines (T7). This proved later to have unfortunate consequences for Subaru.

Overall, the Subaru proposals ignored 8 of the 11 criteria (see Table 1). Thus, the selection of an agency was limited to a narrow set of criteria. Judging from Rothenberg's book, much of the decision seemed to be based on intuition and chemistry. This might also have had implications for the relationship.

The Wieden and Kennedy-Subaru Relationship

Rothenberg describes the Wieden and Kennedy-Subaru relationship, which lasted about two years. It was a difficult mix. The agency side were irreverent people trained in areas such as art, English, poetry, and history. On the client side were business types, career bureaucrats, and, more important, dealers who needed to sell cars. The interactions between these two groups of people were fascinating and involved power, money, egos, and art.

Wieden and Kennedy's initial "What to Drive" campaign had the critics raving (p. 297). I agree that the advertisements were extremely artistic. Both *Advertising Age* and *Adweek* named Wieden and Kennedy as their agency of the year and praised the Subaru campaign. If recognition by the advertising community were a valid indicator of selling success, Subaru was in good hands.

Yet, all was not well. As in the proposal, Wieden and Kennedy paid no attention to the strategy criteria and little attention to the tactics criteria when developing and implementing the advertising. As a result, the relationship gradually disintegrated. A lack of specifics may have contributed to the downfall; for example, little attention was given to objectives (S2), because the agency had little concern about selling cars. This would seem to be an important reason for advertising—a fact that did not escape the notice of the Subaru dealers (see Chapter 18). In contrast, the agency believed they were abandoning their art, making such comments as "Okay, what's the lowest we will go? How big of a whore will we be?" (p. 339). Wieden and Kennedy gave ground grudgingly; for example, they reluctantly agreed to use a toll-free number, which they regarded as one of the gimmicks used by the "big, boring agencies in New York."

Wieden and Kennedy's "Lack of Pretense" campaign made fun of selling cars. When Wieden and Kennedy met with the car dealers, the dealers' criticisms were strong. "Funny? That's not funny! ... You never talk about the deal! ... We gotta sell cars today!" (p. 315). Subaru dealers worried that the agency was so far removed from their goal of selling cars that they were going to "Pull an Infiniti." (This refers to what they saw as the notably ineffective introductory advertisements for the Infiniti automobile.) The dealers were critical of the agency and, when reading Rothenberg's account, I could feel what it was like to "be thrown under a bus" during a presentation, as the expression goes in the advertising world. In addition, despite my association with the advertising world, I found myself cheering for the car dealers.

No formal attention was given to the wealth of extant knowledge on how to persuade (S4). Yet, clearly these research findings can provide a rational foundation for an advertising campaign. For example, when I teach advertising, my students are provided with an expert system that uses persuasion research to help assess sales effectiveness. Currently, to evaluate a single television advertisement, a person may need to rate as many as 210 features. When I applied this expert system to the "What to Drive" SVX advertisement, its score was low. In fact, it was almost as low as the rating for an introductory advertisement for the Infiniti.² In terms of the persuasion research then, Subaru "got an Infiniti."

Ethical guidelines (T7) also caused a problem. The Insurance Institute for Highway safety called the campaign "offensive and totally inappropriate." Representatives of the Center for Auto Safety and other such groups asked Subaru to withdraw some advertisements (pp. 297-98).

Finally, there was a serious "attitude problem." The agency employees began to make fun of their clients behind their backs. Seeing this as a problem, Wieden and Kennedy instituted a \$1.00 fine for any slurs against the client ... with the pot to go toward agency parties. According to Rothenberg, the *Philadelphia Magazine* published an article (September 1992) that declared, "Arrogance is a full partner at Wieden and Kennedy." Perhaps advertising agencies also need guidelines about honest relationships.

Suggestions for Evaluation

For the most part, Subaru approached the agency selection process in an unstructured way. At some points, they tried to structure the process; for example, instead of rating agencies globally, one committee member made separate ratings of "tag line, research, creative, media planning and buying, ability to get to 150,000 unit sales, organization, compensation, and understanding Subaru. He then summed the ratings for each agency" (p. 183). Although I am partial to structured rating sheets, the logic behind this particular list escaped me. Among other things, it ignored important issues and mixed inputs and outputs.

Advertisers should adopt a systematic, comprehensive, structured approach to the selection of an agency. The use of such a structured approach, such as the four-point strategy and seven-point tactics checklists described previously, should lead to more rational decisions, especially if the ratings are prepared independently by a heterogeneous group of experts. A structured proposal format would help shape the agency-client relationship more rationally and tell the agency specifically what is needed in the relationship. To obtain such proposals, it might be worthwhile to follow the procedure of some clients, in which a fee is paid to the agency for the proposal. Thus, the client then has the right to use any creative ideas that were developed.

The use of a structured approach helps clients focus more on evaluating the creative process than on the creativity of the copy. This would increase the likelihood of creative advertising in the fu-

²That advertisement featured a flock of birds in flight and mentioned the product only briefly at the end of the advertisement

ture. A structured approach also allows for more emphasis on findings about how to persuade. Advertisers know much about persuasion, yet do not seem to use it widely. For example, Helgesen's (1994) interviews of 40 representatives of the ten largest advertising agencies in Norway led him to conclude that "as to the potential support from academic research, in order to improve advertising effectiveness, the opinions and attitudes were utterly vague or nonexistent" (p. 50). Agencies that use research findings can provide value to clients and perhaps to the client's customers.

Conclusions

Although Rothenberg ostensibly reports events in an objective fashion, *Where the Suckers Moon* nevertheless reads like an exposé of incompetent management by the client and the agencies. By revealing the process used to select advertising agencies, Rothenberg provides a basis for discussion. Is this the process that is wanted? The agency's process, as described by Rothenberg, did not include all that an advertiser should expect. An alternative subtitle for the book might have been *Advertising Agencies Don't Do Strategy*.

The good news for Subaru and other companies is that the possibilities for improvement are exciting. Structured approaches have improved decision making in other areas of management, and they are likely to help in the selection of an agency. On the other hand, had Wieden and Kennedy used this approach, I doubt that Rothenberg would have been able to write such an interesting book about advertising.³

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Network Models of the Diffusion of Innovations
By Thomas W. Valente (Cresskill, NJ: Hampton Press, Inc., 1995, 171 pages)

Concerning the Diffusion of Network Models in Marketing

Networks and diffusion models seem entirely complementary—different sides of the same coin. In some sense, networks have always been implied, without elaboration, in the diffusion literature, whereas diffusion processes have been taken for granted, without elaboration, in the networks literature. Until recently, these literatures have rarely crossed paths (which in itself poses an interesting network/diffusion problem). Clearly, significant progress can be made in marketing by a simultaneous consideration of both areas. Surely, what is known about diffusion models can be leveraged to better understand networks, and what is known about networks leveraged to better understand diffusion models. In the broadest sense, that is precisely the purpose of Valente's book, *Network Models of the Diffusion of Innovations*.

Models for diffusion of innovations have a long tradition in marketing. Drawing primarily from the work of Bass and his many students, marketers use diffusion models to explain the pattern of cumulative adoptions across time. This process is generally described in terms of acceptance rates among influential leaders and subsequent adopting consumers.

Network models, on the other hand, are relatively new to marketing. These models are used to help explain patterns of influence and exchange among individual persons and groups interconnected in various ways with varying degrees of cohesion. Although researchers studying channels and business marketing have always appreciated the importance of networks of relationships, only recently has the discipline begun to consider broader applications of network schemes and try to understand the nature and structure of such interconnections. Because network concepts can easily be adapted for use at both firm and consumer levels of analysis, they are ideally suited for hand-in-hand use with diffusion models for studying marketing relevant phenomena, such as the flow of word-of-mouth communications among friends and families of interconnected friends, and for tracking with precision the ripple of the innovative purchase.

Currently, most diffusion models are developed in such a way that they simply have a "parameter" in them that acknowledges the impact of word-of-mouth communications in the diffusion process. Network models can be helpful in expanding this parameter by integrating concerns about the actual connected structures, thus making explicit the study of the flow process. Furthermore, following the logic of diffusion models, marketers have long thought that the identification of leaders would enable them to target small groups of consumers efficiently, thereby leaving the consequent ripple of adoptions throughout the network to the word-of-mouth process. Network methods are in fact ideally suited for identifying those group members most likely to be influential in the adoption process—the identification of such members is one of network methods' central strengths and, paradoxically, one of the easier methodological tasks.

Networks also can show various breakdowns in structure. Diffusion logic assumes all consumers are somehow linked. However, most empirical research on network structure shows inevitable disconnections. Although such breaks in flow disrupt the movement of the innovation, they can be easily identified with network methods, which would enable the diffusion process to restart and continue. These examples of synergies between diffusion and network models are meant to be suggestive rather than to exhaust the set of possibilities.

³Tony Adams, Burton Brodo, Terry Clark, Ralph Day, Deborah Fox, Ronald Goodstein, John R. Rossiter, Randall Rothenberg, and William D. Wells provided useful comments; however, they do not necessarily support the conclusions presented here.

Thus, it was with some excitement, and not a little expectation, that I turned to Valente's book. Someone was finally venturing to understand and explain the diffusion process using network models. And, when I saw a quote from the Moody Blues on the dedication page, I felt certain I was in for a magical read. Unfortunately, the book did not live up to my expectations, though it should prove useful to marketing scholars and practitioners who are not specialists in either area.

Network Models of the Diffusion of Innovations has nine chapters, each covering a variety of related topics, including a discussion of prior research on threshold and critical mass effects, relational diffusion networks, structural diffusion networks, threshold models of diffusion, critical mass models of diffusion, empirical analyses of threshold models, and other network models and methods. Valente also discusses some of the more behavioral aspects of the diffusion process, including opinion leadership, group membership, personal networks, and several interesting presentations distinguishing these from related concepts, such as collective behavior. What Valente sets out to accomplish—to open discussion and consideration of cross-issues—is achieved. Throughout, Valente illustrates central points using three data sets: physicians adopting a new drug, farmers adopting hybrid corn, and Korean women adopting family planning.

Conceptually, the book is an innovation—on the cutting edge of integrating two important, complementary streams of research. To be fair, it must be said that a book on such a frontier cannot possibly answer all questions, nor is it likely to satisfy specialists in either area. The function of such a book is to open the new area and suggest what might be in the new landscape. Diffusion models and the network paradigm each comprise vast literatures, and only so much can be covered in 139 pages of text. I concede to Valente the position of conceptual pioneer and leave it to future researchers to work out in more sophisticated terms just exactly how and where these vast literatures collide in useful ways.

Although Valente writes clearly, with much terminology already commonplace to marketers (e.g., adopters, laggards, the interpretation of various forms of diffusion curves), he does presume some familiarity with the more arcane jargon of networks and diffusion models. This tendency is exacerbated for a marketing audience by the book being targeted toward readers in communications (Valente's own discipline). For example, little of the literature from marketing's rich tradition on diffusion is cited. Instead, the litera-

ture is drawn from epidemiology and geography (perhaps because the work on diffusion in those disciplines apparently predates that in marketing). Because of this, the first task of interested marketing scholars in reading the book is to update it and broaden the discussion to reflect the progress made in diffusion research in marketing during the past 25 years. Thus, in some respects, the general marketing scholar must penetrate two worlds to access Valente's wisdom.

In addition, as a network researcher myself, I was somewhat disappointed that Valente's integration of diffusion and network models merely grazes the tip of the network iceberg. So much more is available that would have been useful and intriguing. (I am almost tempted to rewrite the book in that respect.) Only the elementary concepts are covered (e.g., those presented in introductory books such as Knoke and Kuklinski [1982] or Scott [1991]), and none of the more sophisticated techniques that have appeared in the literature in recent years (primarily in *Social Networks*) are discussed. Thus, many readers of the *Journal of Marketing* will likely be disappointed with Valente's book.

Network Models of the Diffusion of Innovations is easy to read and extremely thought-provoking. However, the intelligent marketing scholar or practitioner must translate the presentation to make it useful for solving marketing problems. The way diffusion models in marketing is handled is more sophisticated than Valente's, and the network concepts he presents are a fairly thin representation of the enormous variety of techniques and models found in the network literature (most of which have considerable promise for application in diffusion studies in marketing). Still, the book is a decent and noteworthy first attempt at integrating two theoretical areas of great importance in marketing.

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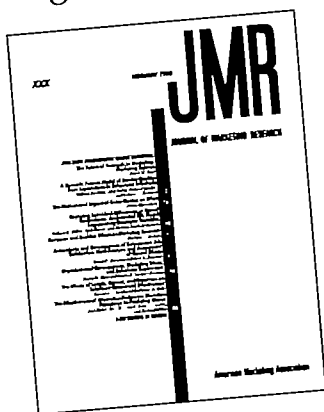
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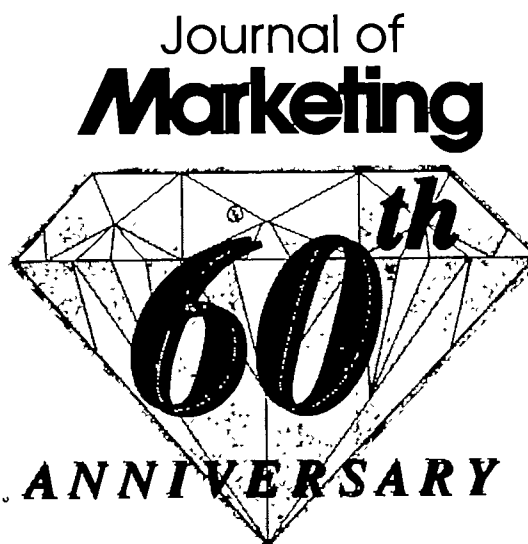
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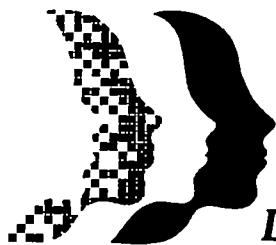
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From the Editor: The Journal of Marketing, 1993 to 1996

With the publication of this issue, my three-year term as editor of the *Journal of Marketing* comes to an end. Dr. Robert F. Lusch assumed editorial responsibility for *JM* on July 1, 1996. Over the last several months, Bob and I have been working closely to ensure a smooth and orderly transition. Beginning with the January, 1997 issue, Bob will be responsible for the editorial content of the next three volumes of *JM*. Please join me in welcoming Bob, a distinguished marketing scholar who brings an impressive repertoire of administrative skills to the job. I am confident that *JM* will continue to thrive and prosper under his editorial leadership. I wish him well and look forward to reading future issues of *JM* published under his editorship.

During my term as editor, of the 802 manuscripts submitted to *JM* for review, 82 were accepted for publication, for an acceptance rate of 10.2%. A capsule summary of the number of manuscripts submitted, their disposition, acceptance rate, and turn around time for 93-94, 94-95, and 95-96 is presented in the Table. As is detailed in the Table, during each of the three years, over 70% of the manuscripts submitted were processed in 60 days or less, and 95% in less than 90 days.

True to *JM*'s positioning as a broad-based journal, articles on a wide range of topics, including the following, were published during the last three years: advertising, brand equity, buyer-seller relationships, capabilities of market-driven organizations, competitive advantage, competitive strategy, customer satisfaction, entry deterrence strategies, entry strategies, first-mover advantage, international marketing, market orientation, marketing control, marketing ethics, marketing and public policy, marketing in hypermedia computer-mediated environments, organizational buying behavior, organizational learning, product innovation and management, pricing, personal selling and sales management, relationship marketing, retailing, sales promotion, services marketing, service quality, and social marketing.

Acknowledgments

During the last three years, I have benefited from the assistance, cooperation, counsel, expertise, and guidance of numerous people on myriad aspects and nuances pertaining to editing and managing *JM*. In particular, I would like to express my appreciation and gratitude to the following people:

- The hundreds of authors for submitting their best works to *JM* for review and being responsive to the many demanding yet constructive comments and suggestions of the reviewers during the manuscript revision process.

- The members of the *JM* Editorial Review Board and the numerous ad hoc reviewers for their dedication and commitment to providing quality reviews in a timely manner.
- Valerie Harris, my editorial assistant, for managing the editorial office in a professional manner, and Amy Herrin and Ben Jeffrey, two enterprising and hard working undergraduate business majors at Texas A&M University, for ably managing *JM*'s editorial office during the last three months of my term as editor, subsequent to Ms. Harris' departure at the end of March, 1996.
- George Zinkhan and Terry Clark, who served as editors of the Book Reviews section, and Myron Leonard, who served as editor of the Marketing Literature Review section, for their diligence and efforts.
- Roger Kerin and Tom Kinnear, who served as AMA Vice Presidents of Publications, for their valuable guidance and counsel.
- Francesca Van Gorp, Managing Editor, AMA Publications, and Alicia Shems, Technical Editor, for ably coordinating publication of *JM* from the AMA Office in Chicago.
- Benton Cocanougher, Dean, College of Business Administration and Graduate School of Business, Texas A&M University, and Paul Busch, Head, Department of Marketing, for their encouragement and enthusiastic support.
- My colleagues in the department, who were generous with their time; they reviewed for *JM*, as well as assisted me in many other respects.
- Among the many former and present doctoral students who assisted me with *JM* activities, Sundar Bharadwaj and Chris White merit special mention.

Awards

At the 1993 Editorial Review Board meeting, I outlined my plans to institute an award to recognize outstanding reviewers. I am pleased to announce the selection of the following members of Editorial Review Board as recipients of the 1993-96 *Journal of Marketing* Outstanding Reviewer Award.

- Shankar Ganesan, Virginia Polytechnic Institute and State University
- Deborah Roedder John, University of Minnesota
- Charlotte Mason, University of North Carolina
- Christine Moorman, University of Wisconsin
- C. Whan Park, University of Pittsburgh
- Robert W. Shoemaker, New York University
- Jagdeep Singh, Case Western Reserve University
- Robert E. Smith, Indiana University
- David Szymanski, Texas A&M University
- Orville C. Walker, Jr., University of Minnesota

TABLE

	June 15, 1993 to June 30, 1994	July 1, 1994 to June 30, 1995	July 1, 1995 to June 15, 1996
Number of Manuscripts Received	274	291	237 ^a
Manuscript Dispositions			
A. Desk rejects	62	52	52
B. Rejected after review ^b	171	194	165
C. Accepted for publication ^{b,c}	26	29	27
Manuscript Acceptance Rate			
$\frac{C}{A + B + C}$	10%	10.5%	11%
Manuscripts Under Review (as of the last date of each reporting period)			
First submissions under review	30	29	36
Revisions under review	8	4	15
Revisions in progress ^d	24	35	20
Manuscript Turnaround Time^e (excluding desk rejects)			
Less than 45 days	38%	50%	46%
46 to 60 days	39%	29%	25%
61 to 90 days	22%	20%	24%
Over 90 days	1%	1%	5%
Mean turnaround time	49 days	42 days	51 days

^aDuring my term as well as during those of my predecessors, there was a sharp decline in the number of manuscripts submitted during the last quarter of an editor's three-year term.

^bThese numbers include some carryovers from the previous reporting periods.

^cThe numbers reported here do not include a commissioned article, an invited editorial, and an invited commentary, but do include two acceptances for the January, 1997 issue.

^dIncludes only those outstanding for one year or less.

^eNumber of days from the date of the manuscript's receipt at the *JM* editorial office to the date of communicating the manuscript's disposition to author.

During the last three years, I found the reviews provided by these people to embody the hallmarks of quality reviews—objectivity, fairness, constructiveness, comprehensiveness, and courteousness. On the dimension of timeliness, the performance of these reviewers ranged from acceptable to outstanding. My decision to assign less weight to the timeliness criteria, within reasonable limits, was influenced by considerations such as reviewers' requests for additional time to complete the review in light of their having to concurrently review manuscripts for other journals or their having to do some additional reading before they would be in a position to provide an objective review.

be fortunate to have had the opportunity to serve as editor of *JM*, I must admit that being exposed on a continuous basis to some of the finest research in the discipline and the outstanding reviews on these manuscripts was indeed a humbling experience. Both the manuscripts submitted to *JM* for review and publication consideration, as well as the reviewers' comments on these manuscripts have been an extremely valuable source of learning. To the authors and reviewers who have collectively educated me during the last three years, I owe a debt of gratitude. Thank you and best wishes.

P. RAJAN VARADARAJAN
Editor

Final Comment

It is a honor to be selected to serve as the editor of the premier journal of our discipline. Although I consider myself to

From the Editor: Reflections on Research and Publishing

During my term as editor, I have had the opportunity to peruse reviewers' comments on more than 600 manuscripts submitted to *JM* for review and publication consideration. In this process, I was struck by several recurring common criticisms of manuscripts in the reviewers' comments. In the spirit of helping authors improve their work, I attempt to provide an overview of some of the weaknesses frequently cited by *JM*'s reviewers, as well as offer a few guideposts for crafting manuscripts for journals.

The common criticisms of manuscripts include both correctable weaknesses (those amenable to being satisfactorily addressed by the authors during successive iterations of revisions) and uncorrectable weaknesses (some of which are fatal flaws that preclude a manuscript from being published, whereas others are weaknesses that do not necessarily imperil the validity of the study findings, but nevertheless limit the generalizability of the study findings). Indeed, it is conceivable that published research in marketing might evidence one or more of the shortcomings detailed here. Authors should, however, recognize that the rigor of the peer review process at this and every other major journal has continuously risen over the years and is destined to rise even further, commensurate with advances in the conceptual, theoretical, and empirical domains of research. Moreover, when sensitized to shortcomings that might possibly compromise the potential contribution of a research study to a body of knowledge, researchers have a responsibility to ensure that their future research endeavors are free of such shortcomings.

Introduction and Literature Review

Some Frequently Observed Weaknesses

- The question of how the research either extends or complements prior research on the topic and its positioning relative to the existing body of research is not clear.
- The only justification given for examining the research question is that it has not been examined in previous research. A stronger justification than this must be provided. Some potentially researchable questions may not have been addressed in the past, because they might have been deemed unimportant research questions.

*This editorial builds on the insightful reviews of numerous *JM* reviewers, and from the comments and suggestions of many reviewers on the *JM* Editorial Review Board and my colleagues at Texas A&M University on an earlier draft of this editorial. I am grateful to all of these people, who are too many to be individually acknowledged here. I take full responsibility for any remaining errors.

- The objectives and intended contribution of the manuscript is preceded by a long and rambling introduction of several pages on topics that seem to be only remotely related to the research topic.
- The literature review cites several articles but does not clearly indicate what was learned from these studies that is relevant to this study. The literature reviewed seems to play almost no role in the subsequent development of research hypotheses, study design, or discussion of results. In effect, no new conceptual or empirical insights emerge from the literature review.
- The literature review merely proves that the literature has been read rather than using the literature for conceptual development. For example, many sentences are written in the style of "so-and-so says such-and-such," rather than using the extant literature to develop support for a particular point-of-view.

Some Guideposts for Authors

- The introduction should clearly describe the research problem and the context in reference to which the problem is being addressed. The motivation for the study—the reasons why studying this phenomenon is important and why a better understanding of this phenomenon matters—should be clearly articulated. For instance, authors might consider stating the intended contribution of their work in terms such as whether it (1) identifies theory that is applicable to the marketplace, (2) extends extant theory, (3) provides evidence of moderator variables that hold implications for actionable marketing practice, (4) offers enlightenment regarding mediational processes, and (5) identifies boundary conditions for theory.
- The literature review should provide a coherent synthesis of extant research on the topic. Because the present state of knowledge is the benchmark for evaluating the contribution of new research in any area, authors should guard against the possibility of understating what is already known, either knowingly or unknowingly.

Conceptual Development

Some Frequently Observed Weaknesses

Because the foundation of any research study is its conceptual development, it is not surprising that reviewers' comments on weaknesses in this section of a manuscript are far more extensive than comments on other aspects of manuscripts.

Constructs

- A great deal of new vocabulary is introduced without providing clear definitions and adequate descriptions clarifying the meanings.
- The conceptual definitions provided are (1) so broad that it is unclear how their conceptual domain is distinct from those of

related constructs and/or (2) ambiguous and lacking in the level of precision needed for their operationalization.

- Many new constructs are introduced without recognizing their overlap or redundancy with other extant constructs.

Theory

- The research suffers from (1) lack of theoretical explanation for the phenomenon observed, (2) inadequate exposition of theory, (3) use of a theory that does not fit the phenomenon well, and/or (4) theoretical reasoning that is not compelling, because alternative associations between constructs cannot be ruled out.

Model

- The model specified is ad hoc. It is a potpourri of unrelated variables with no unifying conceptual or theoretic logic underlying their choice. No compelling arguments are provided in support of why the variables included in the model are important, underresearched, and/or instrumental to understanding the phenomenon being investigated. No rationale is presented for why the variables studied belong together.
- The model (1) is not discriminating—everything is hypothesized to be related to everything else, (2) is underspecified and appears to have been developed without fully taking into account important prior research on this topic, (3) proposes “definitionally” related constructs as antecedents and consequences, (4) shows evidence of a lack of correspondence between the linkages shown in the conceptual model and the hypotheses stated in the text, (5) does not capture all of the hypotheses stated in the text, and/or (6) is essentially a flow chart enumerating the steps involved in the process of accomplishing something, and as currently structured and specified, the proposed model (i.e., process map) is not empirically testable.

Hypotheses

- The hypotheses are not grounded in a set of well-reasoned theoretical, conceptual, and logical considerations. It is difficult to see how the various hypotheses specifically emerge from the discussion that precedes them.
- There is no logical connection between the theory invoked and the hypotheses stated.
- Some of the hypotheses are (1) truisms, (2) tautologies, (3) self-evident and do not pass the test of being nonobvious; in fact, if they were not supported, the validity of one or more aspects of the empirical study (e.g., reliability and validity of measures) would be questioned, (4) internally contradictory, (5) not directly related to the stated research problem, (6) not in alignment with the proposed model, (7) not new and have been extensively investigated in previously published studies, (8) stated broadly; a hypothesis that merely states that a relationship will exist, but nothing about the directionality of the relationship is of limited value from the standpoint of gaining new and important insights into the phenomenon of interest, (9) stated within the specific confines of the empirical setting and cannot be abstracted to more generalizable marketing phenomena, (10) stated to find support for a null hypothesis, and/or (11) stated as directional hypotheses despite the discussion preceding the hypotheses being equivocal concerning the direction of the relationship.
- For the most part, the justifications offered are either common sense justifications, journalistic reports, anecdotal evidence, or empirical precedence. Anecdotal evidence published in the business press does not make a compelling case for justifying a relationship, because a researcher can always come forward with counter examples. Empirical precedence is not sufficient justification either. A firmer conceptual grounding—exposition of the logic underlying the hypotheses—is essential.

- While extant literature cited in the manuscript is suggestive of interactive, indirect, nonlinear, and/or moderating effects, the hypotheses stated treat each factor as a separate and/or linear influence.

Some Guidelines for Authors

Conceptual development is the cornerstone of sound research. A manuscript must, therefore, demonstrate a great deal of rigor in its conceptual development.

Constructs. The study of specific constructs in a particular context must be grounded in theoretical reasons that suggest they will provide important explanations of the phenomenon under study. Constructs should be clearly defined so that a reader can compare the operationalization of the constructs with the intended meaning. Because conceptual manuscripts do not delve into operationalization and measurement or empirical testing, it is especially important in such manuscripts to pay careful attention to the issues of operationalizability of the constructs and empirical testability of the research propositions in order to facilitate further research in this area.

Theory. The theoretical framework that guides the selection of variables for study and the development of the hypotheses must be presented clearly. In the absence of a theoretical foundation that allows for explanation and prediction of the relationships of interest, the conceptual development, as well as the logic underlying the hypotheses, is compromised and weak. That little prior theorizing exists to lay the foundation for a sound conceptualization does not exempt the researcher from the responsibility for developing at least a preliminary framework or model that would provide insights into the phenomenon of interest. For instance, an author could present a logically reasoned explanation of why a certain relationship may be true. Alternatively, an author could talk to managers about the organizational activities that are the focus of the study and attempt to gain insights into their view of the phenomenon. Researchers also may borrow theories developed in other disciplines. Although such borrowing can contribute much to advancing understanding across disciplines, researchers doing so must demonstrate a significant understanding of the theory base from which they are borrowing, as well as clearly explain what makes that theory base superior to others that have been brought to bear on the issues addressed. It is too easy to select one particular aspect of a theory, look for exceptions, and discredit the whole theory. A better approach would be to draw attention to empirical data that is not adequately explained by accepted theory and then show how the new theory provides a more parsimonious explanation of the phenomenon.

Model. A well-specified conceptual model focusing on the phenomenon of interest requires specification of (1) the antecedents, mediators, moderators, and consequences, (2) the hypotheses—the nature of the relationship (e.g., direct, moderating, mediating)—that tie these together, and (3) the conceptual rationale for the hypotheses. A researcher can generally list several variables that could be potentially included as antecedents. However, not all potential variables can be included, nor should they be. It is therefore critical to

provide a compelling rationale for the variables that are chosen over other potential explanatory variables.

Hypotheses. There should be a logical connection between the theory invoked and the hypotheses stated. The clarity of the derivative logic is important. The reader should be able to see clearly how a hypothesis follows from some theoretical argument. It is not uncommon to find equivocal arguments manifested in rival theories. Researchers have chosen different approaches when faced with this situation. For instance, when the directionality of a relationship is unclear, a researcher might choose to state the opposing arguments and then proceed with empirical testing without stating the hypotheses formally. Alternatively, a researcher can choose to offer additional insight or logic in support of testing one of the competing perspectives.

Research Design and Measurement

Some Frequently Observed Weaknesses

- The design specification of the study is far removed from the realities of the real world
- Although all of the hypotheses imply causation, the research design used to test them is not amenable to casual inferences.
- The research design does not make it possible to rule out alternative explanations for the findings.
- Evaluation of the technical adequacy of the study is constrained by sparse reporting.
- The independent and dependent measures are confounded. Some of the items used to operationalize a key explanatory variable and the dependent variable are worded similarly
- There is an overlap in the conceptual and empirical domains of explanatory constructs. The items used to measure one explanatory construct seem to be confounded with items used to measure another explanatory construct.
- The operational measures employed (1) cannot be objectively evaluated because of the absence of clear conceptual definitions of the constructs, (2) are inconsistent with the conceptual definitions of constructs presented, (3) do not adequately reflect the conceptual domains of the constructs, and/or (4) only minimally reflect the conceptual domains of the constructs.
- The operational measures employed are prone to response bias—given the wording of the scale items, it would be obvious to the respondent as to what constitutes good versus bad business practice.
- The validity of scales borrowed from published sources are seriously compromised by arbitrarily dropping items from the original scale.
- Key informants are not supposed to provide information about themselves but about some other entity in which they may (or may not) have played a role. In many of the measures, careful attention to this informant notion is lacking. Many of the scale items carry a referent of “I.” This is not consistent with the key informant notion.

Some Guidposts for Authors

- Although researchers often may be required to make certain compromises in the areas of research design and measurement to enlist the cooperation of research sponsors, they must guard against the specter of science being compromised
- It is important to ensure that alternative explanations can be ruled out. For example, in a field study without experimental

controls, the inclusion of appropriate covariates in the model specification is critical to establishing the validity of the hypothesized effects and ruling out competing explanations.

- It is inappropriate to proceed with theory testing before examining the psychometric properties of the scales developed to measure the key constructs. No confidence can be placed in the findings of a study in the absence of an assessment of the psychometric properties of the measures. If one of the purposes of the study is to develop a new measure of a construct, then the question of why and how existing measures are inadequate also must be addressed. When importing scales from other disciplines, a researcher's contribution to new knowledge also comes from critiquing, updating, refining, extending, and adapting the scales to the marketing discipline.
- Rather than merely establishing the convergent validity of the items measuring a construct, establishing both convergent and discriminant validity is critical, because some of the constructs studied can be related. Demonstration of reliability and discriminant validity is of little value if construct operationalization does not measure the construct as it had been conceptualized. High Cronbach's alphas may support the reliability of chosen scales, but not their content, nomological, discriminant, and predictive validities.

Results, Discussion, Implications, and Conclusion

Some Frequently Observed Weaknesses

- There is a lack of congruence between (1) the stated research questions and reported research findings and/or (2) the model proposed and the model tested—a significant portion of the empirical section dwells on relationships for which no conceptual basis was presented and hypotheses stated.
- The research findings reported are essentially descriptive. They do not build on any theory that can be used to generalize the results beyond the realm of the context in which it was carried out.
- The findings are susceptible to alternative interpretations.
- Few of the results reported in the tables are summarized and discussed in the text
- The discussion section, rather than focusing on the broader implications of the reported findings, merely restates the findings reported in the results section and/or reports additional findings that should have been presented in the results section.
- For a hypothesis that is not supported, only the conceptual rationale advanced initially as justification for the hypothesis is revisited and a plausible alternative conceptual explanation is offered. What seems to have been overlooked are other plausible reasons, such as weaknesses and limitations relating to research design, model specification, measures and data analysis.
- The implications for research and practice read more like armchair speculation than well thought-out conclusions stemming from the research study.
- Severe measurement problems make it inappropriate to draw any conclusions from the results.
- The conclusions stated do not follow from the evidence presented.

Some Guidposts for Authors

- The implications section should focus on the unique implications stemming from the research reported. Authors should refrain from presenting as managerial implications, organiza-

tional practices that are already widely in vogue, intuitively obvious, or based on common sense and as research implications, research questions that have no direct relevance to the substantive, conceptual, and methodological domains of the manuscript.

- Authors should acknowledge the limitations of the study, as well as address related issues, such as how the limitations might have contributed to unexpected results and why the results that are consistent with a priori expectations should be viewed as valid despite the limitations. However, excessive post hoc rationalization of unexpected results diminishes the credibility of those results that are consistent with a priori expectations. If there is reason to believe that certain confounding factors might have influenced the results, a compelling reason must be offered to support the claim that they might have only affected the unexpected results and not the expected results. Furthermore, advancing several plausible explanations from the literature to support the results that are contrary to the a priori hypothesized relationships is indicative of weak conceptual development.

- Authors should highlight what the reader might learn from the manuscript that would be helpful in other contexts—principles, hypothesis, or useful methodological tips that other researchers can use in other contexts.

In Closing

Let me conclude with a few parting thoughts on making a contribution to marketing thought and practice through scholarly research. Each year, *JM* receives at least a few manuscripts that are essentially descriptive research studies void of any theory or even a semblance of any attempt toward theory development. Such manuscripts are routinely rejected without sending for formal review. In the absence of a theoretical basis, readers can never be sure whether the reported empirical findings are expected or unexpected, spurious or nonspurious, and whether the explanations offered are anything more than informed speculation. Regardless of how clean the pattern of results may be, it is simply not enough to demonstrate an effect without providing an expla-

nation as to what is driving the results. A scholarly research piece must strive to make a conceptual contribution (e.g., presenting new theory, or at least a rigorously developed conceptual framework with clearly defined and measurable variables, and empirically testable research propositions) and/or an empirical contribution (e.g., demonstrating how the methodological characteristics of prior studies could have led to potentially misleading results and how the reported study overcomes these limitations). Once a topic is conceptually well explored, good empirical research is needed to advance the field. Continued exhortation of the importance of the topic and the need for empirical research is inadequate. Nor does a manuscript that merely draws the attention of the reader to the complexity of the problem under study add much depth or insight. Although there can be exceptions, a manuscript that merely enumerates the deficiencies in previously published work is unlikely to be viewed as making a significant contribution to the literature. The potential for making a truly significant contribution is greater when the manuscript also presents or proposes solutions to overcome these deficiencies.

I hope that this discussion of weaknesses and guideposts are helpful to authors who are committed to making a concerted effort to ensure that their next manuscript submission to a journal (and the research it is based on) is better than their last one. Indeed, authors might find it worthwhile to undertake a content analysis of reviewers' comments on their prior submissions to journals. Such an analysis of reviewers' comments on the conceptual, empirical, and measurement aspects of both accepted and rejected manuscripts should yield valuable insights into research shortcomings that transcend individual research studies and the related manuscripts.

P. RAJAN VARADARAJAN
Editor

Claes Fornell, Michael D. Johnson, Eugene W. Anderson,
Jaesung Cha, & Barbara Everitt Bryant

The American Customer Satisfaction Index: Nature, Purpose, and Findings

The American Customer Satisfaction Index (ACSI) is a new type of market-based performance measure for firms, industries, economic sectors, and national economies. The authors discuss the nature and purpose of ACSI and explain the theory underlying the ACSI model, the nation-wide survey methodology used to collect the data, and the econometric approach employed to estimate the indices. They also illustrate the use of ACSI in conducting benchmarking studies, both cross-sectionally and over time. The authors find customer satisfaction to be greater for goods than for services and, in turn, greater for services than for government agencies, as well as find cause for concern in the observation that customer satisfaction in the United States is declining, primarily because of decreasing satisfaction with services. The authors estimate the model for the seven major economic sectors for which data are collected. Highlights of the findings include that (1) customization is more important than reliability in determining customer satisfaction, (2) customer expectations play a greater role in sectors in which variance in production and consumption is relatively low, and (3) customer satisfaction is more quality-driven than value- or price-driven. The authors conclude with a discussion of the implications of ACSI for public policymakers, managers, consumers, and marketing in general.

The economy The economy is changing. The central feature of the old economy was the mass production and consumption of commodities. The modern economy is based on production and consumption of increasingly differentiated goods and services.

How should we measure economic performance in this new world? As the economy changes, theories and measures must change, too. In particular, it seems clear that conventional "output," or "quantity," measures of economic performance, such as productivity, are not only extremely difficult to compute in a differentiated marketplace, but also that they probably tell us less than they used to. For example, the United States leads the world in productivity, but incomes have stagnated. Italy has had one of the most dramatic productivity increases of any country, but it has not translated into strong economic growth. The current trend toward downsizing in U.S. firms may increase productivity in the

short term, but the downsized firms' future financial performance will suffer if repeat business is dependent on labor-intensive customized service (Anderson, Fornell, and Rust 1996).

Hence, in the new economy, producing more—however efficiently—is not necessarily better. There is a pressing need to augment current approaches to evaluating the financial health of individual firms, let alone the wealth of nations. Moreover, as the economy continues to evolve, "the gap between the two economies—the one that government measures and the one businesses and economists are struggling to understand—is widening" (*Fortune* 1993, p. 108). To understand more fully the modern economy, and the firms that compete in it, we must measure the *quality* of economic output, as well as its *quantity*.

We introduce the American Customer Satisfaction Index (ACSI), which represents a new type of customer-based measurement system for evaluating—and enhancing—the performance of firms, industries, economic sectors, and national economies. It is designed to be representative of the economy as a whole and covers more than 200 firms, with 1994 sales in excess of \$2.7 trillion competing in over 40 industries in the seven major consumer sectors of the economy. On an annual basis, the ACSI system estimates a firm-level customer satisfaction index for each company in the sample and weights these firm-level indices to calculate industry, sector, and national indices.

The American Customer Satisfaction Index measures the quality of the goods and services as experienced by the customers that consume them. An individual firm's ACSI represents its served market's—its customers'—overall evaluation of total purchase and consumption experience, both actual and anticipated (Anderson, For-

Claes Fornell is the Donald C. Cook Professor of Business Administration and Director of the National Quality Research Center, University of Michigan Business School. Michael D. Johnson is Professor of Marketing and a core faculty member of the National Quality Research Center, University of Michigan Business School. Eugene W. Anderson is Associate Professor of Marketing and a core faculty member of the National Quality Research Center, University of Michigan Business School. Barbara Everitt Bryant and Jaesung Cha are Research Scientists at the National Quality Research Center, University of Michigan Business School. The authors gratefully acknowledge the financial support of the University of Michigan Business School, the American Society for Quality Control (ASQC), and the ACSI's corporate sponsors. The authors also thank Jack West of ASQC for his contributions in spearheading the development and deployment of the ACSI. This research has benefited from the constructive contributions of the Editor and three anonymous *JM* reviewers.

nell, and Lehmann 1994; Fornell 1992; Johnson and Fornell 1991). Analogously, an industry ACSI represents an industry's customers' overall evaluation of its market offering, a sector ACSI is an overall evaluation of that sector, and the national ACSI gauges the nation's total consumption experience. Hence, ACSI represents a cumulative evaluation of a firm's market offering, rather than a person's evaluation of a specific transaction. Although transaction-specific satisfaction measures may provide specific diagnostic information about a particular product or service encounter, overall customer satisfaction is a more fundamental indicator of the firm's past, current, and future performance (Anderson, Fornell, and Lehmann 1994).

The balance of this article is structured into five sections. First, we explain the nature of ACSI: the theory underlying the ACSI, the nation-wide survey methodology used to collect the data, and the econometric approach employed to estimate ACSI. Second, we discuss the use of ACSI in conducting benchmarking studies, both cross-sectionally and over time. Third, to demonstrate the model's general applicability and usefulness, we estimate the model for the seven major economic sectors for which data are collected. Fourth, we discuss systematic cross-sector variation in each of these areas. Fifth, we conclude with a discussion of the implications of ACSI for public policymakers, managers, and individual consumers, as well as for marketing in general.

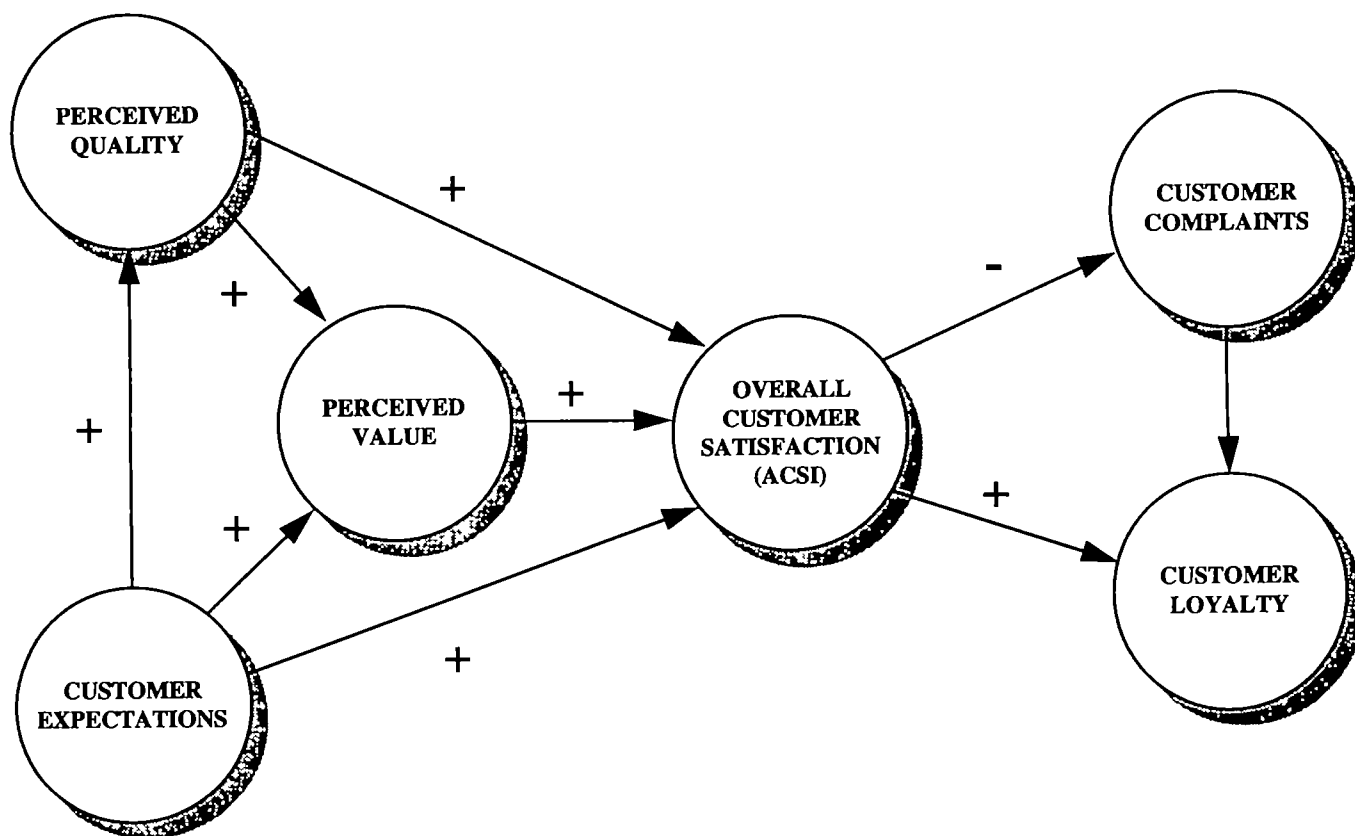
The ACSI Model and Methodology

The concept behind ACSI, namely, a measure of overall customer satisfaction that is uniform and comparable, requires a methodology with two fundamental properties.¹ First, the methodology must recognize that ACSI and the other constructs in the model represent different types of customer evaluations that cannot be measured directly. Accordingly, ACSI uses a multiple indicator approach to measure overall customer satisfaction as a latent variable. The result is a latent variable score or index that is general enough to be comparable across firms, industries, sectors, and nations.

Second, as an overall measure of customer satisfaction, ACSI must be measured in a way that not only accounts for consumption experience, but also is forward-looking. To this end, ACSI is embedded in the system of cause and effect relationships shown in Figure 1, which makes it the centerpiece in a chain of relationships running from the antecedents of overall customer satisfaction—expectations, perceived quality, and value—to the consequences of overall customer satisfaction—voice and loyalty. As was indicated, the primary objective in estimating this system or model is to explain customer loyalty. It is through this

¹For a more extensive and detailed description of the ACSI methodology, please see American Society for Quality Control (1995).

FIGURE 1
The American Customer Satisfaction Index (ACSI) Model



design that ACSI captures the served market's evaluation of the firm's offering in a manner that is both backward- and forward-looking. Moreover, modeling ACSI as part of such a system serves to validate the index from a nomological standpoint. Nomological validity, a form of construct validity, is the degree to which a construct behaves as predicted within a system of related constructs called a *nomological net* (Cronbach and Meehl 1955). To the extent that the model predictions are supported, the validity of the ACSI is supported.

ACSI Antecedents

As is shown in Figure 1, overall customer satisfaction (ACSI) has three antecedents: perceived quality, perceived value, and customer expectations. The first determinant of overall customer satisfaction is perceived quality or performance, which is the served market's evaluation of recent consumption experience, and is expected to have a direct and positive effect on overall customer satisfaction. This prediction is intuitive and fundamental to all economic activity. To operationalize the perceived quality construct, we draw on the quality literature to delineate two primary components of consumption experience: (1) customization, that is, the degree to which the firm's offering is customized to meet heterogeneous customer needs, and (2) reliability, that is, the degree to which the firm's offering is reliable, standardized, and free from deficiencies.

The second determinant of overall customer satisfaction is perceived value, or the perceived level of product quality relative to the price paid. Adding perceived value incorporates price information into the model and increases the comparability of the results across firms, industries, and sectors. Using value judgments to measure performance also controls for differences in income and budget constraints across respondents (Lancaster 1971), which enables us to compare high- and low-priced products and services. For perceived quality, we expect a positive association between perceived value increases and customer satisfaction.

The third determinant of overall customer satisfaction is the served market's expectations. The served market's expectations represent both the served market's prior consumption experience with the firm's offering—including nonexperiential information available through sources such as advertising and word-of-mouth—and a forecast of the supplier's ability to deliver quality in the future. As such, the expectations construct is both backward- and forward-looking. It captures all previous quality experiences and information from $t - 1$, $t - 2$, ..., $t - m$. Hence, it naturally has a direct and positive association with a cumulative evaluation of the firm's performance, such as overall customer satisfaction. At the same time, the served market's expectations at time t forecast a firm's ability to satisfy its market in future periods $t + 1$, $t + 2$, ..., $t + n$. This role of expectations is important because the nature of the ongoing relationship between a firm and its customer base is such that expected future quality is critical to overall customer satisfaction. This predictive role of expectations also suggests that it should have a positive effect on overall customer satisfaction (Anderson, Fornell, and Lehmann 1994).

Finally, customer expectations should be positively related to perceived quality and, consequently, to perceived value. Customer knowledge should be such that expectations accurately mirror current quality. Hence, we expect the served market to have expectations that are largely rational and that reflect customers' ability to learn from experience and predict the levels of quality and value they receive (Howard 1977).

ACSI Consequences

Following Hirschman's (1970) exit-voice theory, the immediate consequences of increased customer satisfaction are decreased customer complaints and increased customer loyalty (Fornell and Wernerfelt 1987). When dissatisfied, customers have the option of exiting (e.g., going to a competitor) or voicing their complaints in an attempt to receive retribution. An increase in overall customer satisfaction should decrease the incidence of complaints. Increased overall customer satisfaction should also increase customer loyalty. Loyalty is the ultimate dependent variable in the model because of its value as a proxy for profitability (Reichheld and Sasser 1990).

The final relationship in the model is between customer complaints and customer loyalty. Although there are no direct measures of the efficacy of a firm's customer service and complaint-handling systems, the direction and size of this relationship reflect on these systems (Fornell 1992). When the relationship is positive, the implication is that the firm is successful in turning complaining customers into loyal customers. When negative, the firm's complaint handling has managed to make a bad situation even worse—it has contributed further to customer defection.

ACSI Methodology

The American Customer Satisfaction Index is designed to be representative of the nation's economy as a whole. Accordingly, in selecting the companies to measure, each of the seven major economic sectors (one-digit standard industrial classification [SIC] code level) with reachable end-users were included in the design: (1) Manufacturing/Non-durables, (2) Manufacturing/Durables, (3) Transportation/Communications/Utilities, (4) Retail, (5) Finance/Insurance, (6) Services, and (7) Public Administration/Government. Within each sector, the major industry groups (two-digit SIC codes) were included on the basis of relative contribution to the gross domestic product. Within each industry group, several representative industries (four-digit SIC codes) were included on the basis of total sales. Finally, within each industry the largest companies were selected, such that coverage included the majority of each selected industry's sales.

For each firm, approximately 250 interviews were conducted with the firm's current customers. Interviews came from 48 replicate national probability samples of households in the continental United States with telephones (95% of households). Prospective respondents (selected without substitution from the household by the "nearest birthday" method) were screened to identify purchasers of specific goods or services within defined purchase and consumption time periods. These periods vary from three years for the purchase of a major durable, to "within the past month" for

TABLE 1
Measurement Variables Used In the ACSI Model

Measurement Variable	Latent Variable
1. Overall expectation of quality (prepurchase)	Customer expectations
2. Expectation regarding customization, or how well the product fits the customer's personal requirements (prepurchase)	
3. Expectation regarding reliability, or how often things would go wrong (prepurchase)	
4. Overall evaluation of quality experience (postpurchase)	Perceived quality
5. Evaluation of customization experience, or how well the product fit the customer's personal requirements (postpurchase)	
6. Evaluation of reliability experience, or how often things have gone wrong (postpurchase)	
7. Rating of quality given price	Perceived value
8. Rating of price given quality	Perceived value
9. Overall satisfaction	ACSI
10. Expectancy disconfirmation (performance that falls short of or exceeds expectations)	ACSI
11. Performance versus the customer's ideal product or service in the category	ACSI
12. Has the customer complained either formally or informally about the product or service?	Customer complaints
13. Repurchase likelihood rating	Customer loyalty
14. Price tolerance (increase) given repurchase	Customer loyalty
15. Price tolerance (decrease) to induce repurchase	Customer loyalty

frequently purchased consumer goods and services, to currently having a bank account or insurance policy in the person's own name.

Once a respondent was identified as a customer, the interviewer proceeded with the customer satisfaction questionnaire. Each questionnaire contains the same 17 structured questions and 8 demographic questions. Lead-in wording and examples were tailored to specific goods and services. In Table 1, we describe the 15 measurement variables from the ACSI survey that are used in the model estimation and identify the associated latent variable.

Customer expectations were measured by asking respondents to think back and remember the level of quality they expected on the basis of their knowledge and experience with a good or service.² Three expectation measures were collected: (1) overall expectations, (2) expectations regarding customization, and (3) expectations regarding reliability. Customers then rated their recent experience with the good or service by using three measures: (1) overall perceived quality, (2) perceived customization, and (3) perceived reliability. Two questions then tapped perceived value, quality relative to price, and price relative to quality.

Overall customer satisfaction (ACSI) was operationalized through three survey measures: (1) an overall rating of satisfaction, (2) the degree to which performance falls short of or exceeds expectations, and (3) a rating of performance relative to the customer's ideal good or service in the category. Whereas the latter are commonly used as antecedents in models of transaction-specific satisfaction (Oliver 1980;

Yi 1991), their use as reflective indicators of overall customer satisfaction is consistent with the cumulative nature of ACSI, because each measure represents a qualitatively different benchmark customers use in making cumulative evaluations, such as overall customer satisfaction (ACSI). Moreover, the latent variable methodology employed to estimate overall customer satisfaction only extracts shared variance, or that portion of each measure that is common to all three questions and related to the ACSI construct's position in the model's chain of cause and effect. Thus, satisfaction is not confounded by either disconfirmation or comparison to an ideal. Only the psychological distance between performance and expectations, and between performance and the customer's ideal point, was used to estimate overall customer satisfaction (ACSI).

Customer complaints were measured by whether a customer had complained either formally (as in writing or by phone to a manufacturer) or informally (as to service personnel or a retailer). In addition, there were two measures of customer loyalty. The first was repurchase likelihood. The second measure was constructed from two survey variables: the degree to which a firm could raise its prices as a percentage before the customer would definitely not choose to buy from that firm again the next time (given that the customer has indicated he or she is likely to repurchase) and the degree to which a firm could lower its prices as a percentage before the customer would definitely choose again from that firm the next time (given that the customer has indicated he or she is unlikely to repurchase).

Scales and Model Estimation

The frequency distribution of satisfaction and quality ratings is always negatively skewed in competitive markets (Fornell

²Although such post hoc measures of expectations are imperfect, the cost of obtaining expectations prior to purchase is prohibitive in a study of this magnitude.

1995). To reduce the statistical problems of extreme skewness, the ACSI uses 10-point (versus 5- or 7-point) rating scales to enable customers to make better discriminations (Andrews 1984). The use of multiple indicators also reduces skewness (Fornell 1992). A version of partial least squares (PLS) is used to estimate the model (Wold 1989). Partial least squares is an iterative procedure for estimating causal models, which does not impose distributional assumptions on the data, and accommodates continuous as well as categorical variables. Because of the model structure, PLS estimates weights for the survey measures that maximize their ability to explain customer loyalty as the ultimate endogenous or dependent variable. The estimated weights are used to construct index values (transformed to a 0- to 100-point scale) for ACSI and the other model constructs.

The ACSI values for individual industries and sectors, as well as the overall economy are computed by aggregating firm-level results. An industry-level ACSI is an aggregate of firm results weighted by firm sales (such as Philip Morris sales for Miller Beer in the beverages and beer industry and excluding other corporate Philip Morris sales). A sector ACSI is an aggregate of industry results weighted by industry sales. The overall ACSI is an average of the sector results weighted by each sector's contribution to the gross domestic product. A formal statement of the ACSI model and its measurement is provided in the Appendix.

The Evolution of National Indices

The first truly national customer satisfaction index was the Swedish Customer Satisfaction Barometer, or SCSB (Fornell 1992). Developed in 1989, the SCSB includes 31 major Swedish industries. In Germany, the Deutsche Kundenbarometer, or DK, was introduced in 1992 and as of 1994 also includes 31 industries (Meyer 1994). The American Customer Satisfaction Index was first introduced in the fall of 1994, with information on 40 industries and seven major sectors of the U.S. economy (National Quality Research Center 1995). Recently, New Zealand and Taiwan also have started indices for customer satisfaction. The European Union also has recommended that it be done in its member countries.

The original Swedish Barometer used perceived value (quality given price and price given quality) and a single measure of customer expectations. It has since been re-specified to conform to the ACSI. By drawing on the quality literature and its distinction between customization and reliability, the ACSI approach introduces a perceived quality index to go with the original value index. The addition of this quality construct has two advantages. Distinguishing between quality and value provides information regarding the degree to which satisfaction is price- versus quality-driven. The quality construct also provides information regarding the relative importance of customization and reliability in determining quality.

Other improvements incorporated into the ACSI focus on the measurement properties of the model. The three measures of perceived quality (see Table 1) furnish the ACSI model with three corresponding measures for operationalizing customer expectations (compared to the single expectations measure used in the original SCSB model). An additional question is asked in the ACSI to improve the mea-

surement of price tolerance. In the original Swedish model, customers were only asked how much more they would pay, given that they were likely to repurchase. In the ACSI model, customers are also asked how much the price would need to be reduced for them to repurchase, given that they are unlikely to repurchase. This provides a more complete price tolerance measure that improves the measurement properties of the loyalty construct.

Finally, the ACSI requires a different approach to survey sampling because of the complexity of the U.S. economy. In the SCSB, a firm is surveyed for customer satisfaction with a single representative brand. This is impractical in the United States, where manufacturers such as the domestic "big three" automobile companies and General Electric offer a wide range of popular models under more than one brand name. As was described, customers in the ACSI are surveyed at the brand or model level, and the various brand or model observations are combined to estimate a firm-level model.

ACSI as a Benchmark Cross-Sectionally and Over Time

In Figure 2, we provide a breakdown of the industry, sector, and overall ACSI results for the baseline ACSI released October, 1994. The overall ACSI for the 1994 baseline was 74.5. What do the numbers shown in Figure 2 mean? As latent variables, the ACSI measures are comparable (albeit not blindly) across firms, industries, sectors, and nations. For example, the ACSI averages approximately 80 for goods, 75 for services and retailers, and 64 for public and government agencies. This implies that customers are generally more satisfied with goods than with services and are least satisfied with public administration and government agencies.

The American Customer Satisfaction Index measures lend themselves well to benchmarking over both time and context. For example, the 1994 ACSI indices provide a baseline for determining whether the marketplace is becoming more or less satisfied with the goods and services provided by individual firms, entire industries, and different sectors of the economy, as well as with the economic life of the nation as a whole. With regard to the last item, it is interesting to observe the decline in ACSI at the national level, which is shown in Figure 3. The American Customer Satisfaction Index falls from the baseline level of 74.5 in 1994 to a low of 73.0 in the first quarter of 1996. The decline is driven primarily by decreasing customer satisfaction with services. To the extent that long-term profitability depends on customer loyalty and the efficiencies gained from long-term buyer-seller relationships, this drop in satisfaction with services should be seen as a warning signal about the long-term financial prospects for the firms affected. More important, because services are a large and growing portion of the economy, such a decline may reflect a weakening of the economy in general and a lowering of living standards with regard to consumption quality.

Tracking ACSI over time can also yield interesting insights at the firm level. One of the biggest winners in the first release of the firm-level results of the index was the U.S. Postal Service, which rose 13.0% to 69 in 1995 (*For-*

FIGURE 2
1994 Baseline ACSI Results

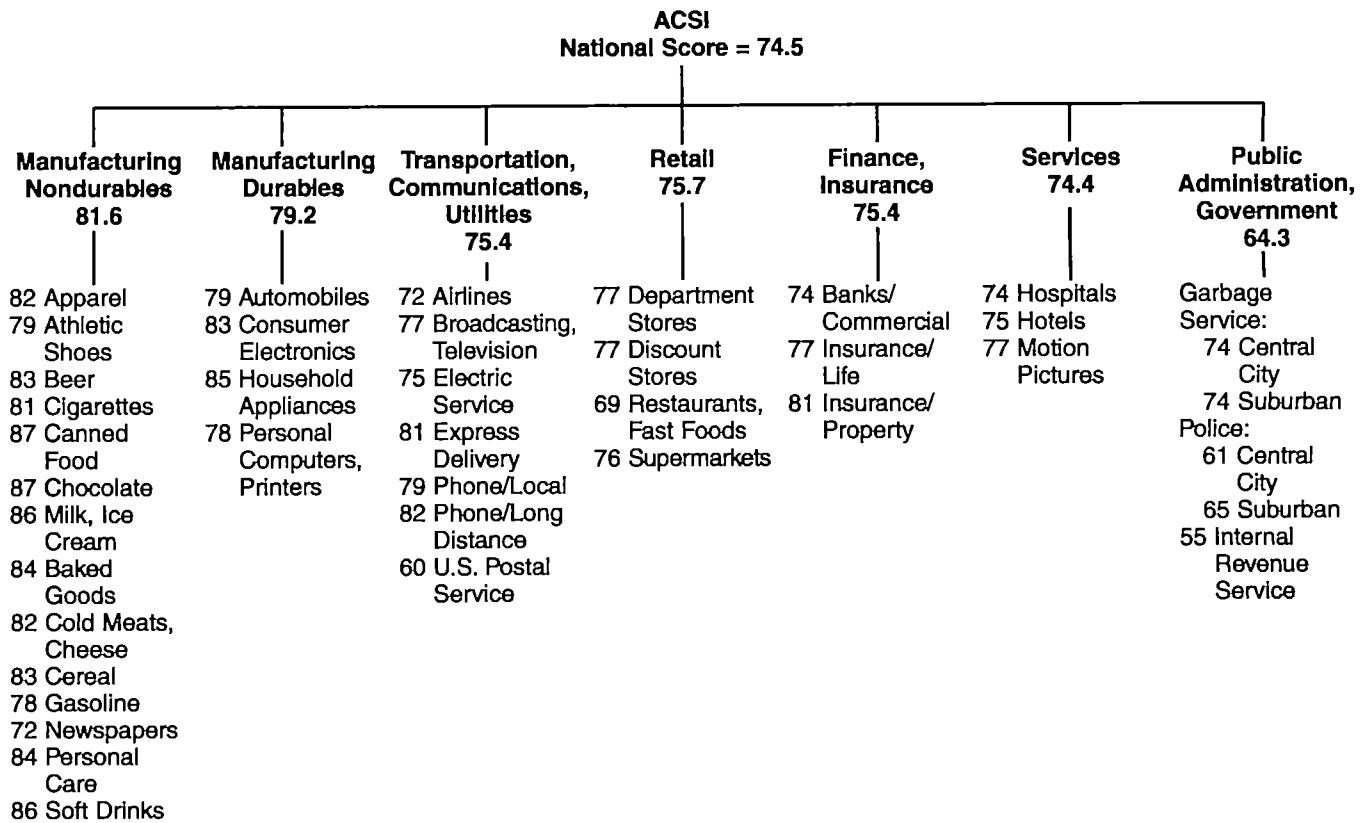
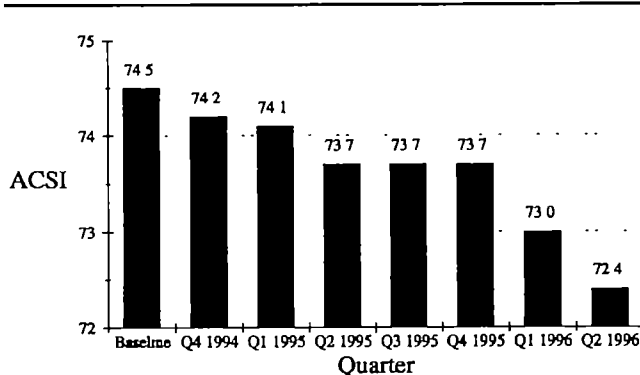


FIGURE 3
National ACSI Over Time



tune 1995). The postal service is engaged in a massive effort to improve the quality of their services, and it posted record profits last year. Large declines in the index were seen at companies that recently engaged in substantial downsizing, such as GTE (down 5.3% to 72) and Kmart (down 5.4% to 70).

Firm, industry, sector, and national ACSI scores also can be compared cross-sectionally within a given time period. For example, we can determine how well a particular firm is doing relative to the best firms in its own industry, the best firms in other industries in that sector, or the best in nation as a whole. Industries and sectors can be compared with one another in a similar fashion.

The American Customer Satisfaction Index also can be compared to the findings of Sweden's SCSB and Germany's DK. For example, the pattern of sector differences found in the ACSI is consistent with that observed in the SCSB and the DK. That is, goods score higher than services, and public administration is always the lowest scoring sector. However, viewed against the SCSB and DK, the ACSI scores are relatively high, especially in the goods and services sectors.

Although it is relatively straightforward to ask which firms, industries, sectors, and nations are relatively more effective at providing satisfying goods and/or services, it is a different question to ask whether a particular firm, industry, sector, or nation is "performing well." To do so, it is necessary to put the ACSI index numbers in context. From research conducted using SCSB data, it is known that certain factors make it more or less difficult to achieve high customer satisfaction and are likely to lead to higher or lower customer satisfaction for different types of industries. Fornell and Johnson (1993) find customer satisfaction higher in industries with a significant level of competition and differentiation. Anderson (1994) finds satisfaction higher when competition, differentiation, involvement, or experience is high or when switching costs, difficulty of standardization, or ease of evaluating quality is low. Both studies find satisfaction higher for goods than for services or retailers. This research enables us to conjecture that the observed higher satisfaction in the United States is due to the greater degree of competition found in most U.S. industries.

The question remains, however, once structural differences are taken into account, is a particular ACSI score “good” or “bad”? This question pertains to differences in the ACSI that are attributable to conduct, as opposed to structure. Such benchmarking judgments are relatively straightforward within a particular industry, in which firms can be compared against one another. In such cases, industry structure is held constant, such that differences in firm performance may be attributed to the firm’s conduct.

Firms that do particularly well relative to their competition include Southwest Airlines, with an ACSI of 76 relative to an industry average of 69, and Wal-Mart, with a score of 80 relative to an industry average of 74. Both firms have developed difficult-to-imitate strategies and resources that have put them far ahead of the competition in their respective industries. Firms that trail the competition in their industry include Hyundai, with an ACSI of 68 relative to the automobile industry average of 80, and A&P, with a score of 69 relative to the supermarket industry’s average of 74, and are each increasingly vulnerable to aggressive competitors.

Within a sector, though different industries are likely to share similar characteristics, benchmarking should be done with deference to differences in industry structure, such as the degree of competition. As is shown in Figure 2, the ACSI for long-distance telephone service (82) is greater than local telephone service (79). Consequently, it is possible to say that customer satisfaction with long-distance service is higher. However, it is not possible to say whether industry performance is good or bad without first taking into account differences in satisfaction due to structural characteristics. In other words, greater competition is likely driving the ACSI higher in long-distance service, but it is not appropriate to evaluate the conduct of the industry without first taking this structural difference into account. For example, long-distance service’s score of 82 may be weak, given the industry’s structural characteristics, whereas the local telephone industry’s score of 79 may be high, given its situation. If so, then though long-distance service would be providing higher customer satisfaction, it might be encouraged to do better. At the same time, local telephone’s performance would be “better,” because the served market is more satisfied than would be expected on the basis of its industry characteristics. Hence, benchmarking requires further “handicapping” to account for differences in both. Development of a deeper understanding of how to handicap ACSI scores for benchmarking purposes is a promising avenue for further research.

General Applicability and Usefulness of ACSI

Using individual respondents as observations, we here describe the results of estimating the ACSI model for the seven measured sectors of the economy.³ In contrast to the

baseline results, in which the model is estimated for each firm and the results are aggregated to industry and sector indices and to an overall national ACSI, here each sector is treated as a subsegment of the overall ACSI population of respondents. In particular, we discuss the general applicability of the model and several key findings regarding (1) the relative importance of customization and reliability, (2) the predictive nature of expectations, and (3) the relative importance of price and quality. Throughout, we use standardized variables (correlations) to evaluate the measurement portion of the model and fit measures, whereas we use unstandardized variables (covariances) as input to estimate effect sizes. Jackknifing is used to obtain standard errors for each of the model parameters. Wherever model estimates (loadings and effects) are compared or contrasted across sectors in the discussion of results, the differences are significant ($p < .05$).

General applicability of the model. Overall, we expect the ACSI model to be generally applicable to multiple sectors. The model and measures are designed to provide this generality. This prediction is examined through several indicators. The first is whether the estimated path coefficients are significant in the predicted directions. We find the model’s path coefficients to be significant and in the predicted direction for 54 of 56 possible cases.⁴

The second indicator of the model’s performance is its ability to explain important latent variables in the model, especially overall customer satisfaction (ACSI) and loyalty. We find that the estimated model explains a substantial proportion of the variance in both constructs. For overall customer satisfaction (ACSI), R^2 measures range from .70 for sector 1 to .80 for sector 5 (average of .75). For customer loyalty, R^2 ranges from .26 for sector 6 to .47 for sector 5 (average of .36).

The third and fourth indicators capture the fit of the measurement variable (MV) and latent variable (LV) portions of the model: the proportion of available covariance in the MVs explained, and the proportion of available covariance in the LVs explained. The measurement variable loadings for the ACSI model (not shown) are all relatively large and positive. The percent of MV covariance explained ranges from 84% for sector 1 to 89% for sectors 3 and 5 (average of .87). The percent of LV covariance explained ranges from 92% for sector 2 to 95% for sector 5 (average of 94%). Each model, therefore, explains well over 90% of the LV covariance available in a model that specifies 9 of 15 possible LV relationships. This suggests that there are no major relationships in our data that the ACSI model fails to capture.

Customization versus reliability. The measurement loadings suggest that customization is more central to customers’ expectations and perceptions of quality than reliability. The average loadings for the expectations construct were .81, .85, and .68 for expected quality, customization, and reliability, respectively. The average loadings for the perceived quality construct were .907, .906, and .77 for

³The samples were as follows: (1) Manufacturing/Nondurables ($n = 12,075$; 26.8% of sample), (2) Manufacturing/Durables ($n = 7,828$; 17.4%), (3) Transportation/Communications/Utilities ($n = 10,101$; 22.4%), (4) Retail ($n = 7,243$, 16.1%), (5) Finance/Insurance ($n = 3,236$, 7.2%), (6) Other Services ($n = 3,328$; 7.4%), and (7) Public Administration/Government ($n = 1,183$; 2.6%).

⁴The two relationships that were not correctly predicted were for sector 5 (Finance/Insurance), in which there is a negative, albeit not significant, effect of expectations on overall customer satisfaction, and sector 7 (Public Administration/Government), in which the effect of expectations on value is positive but not significant (.035).

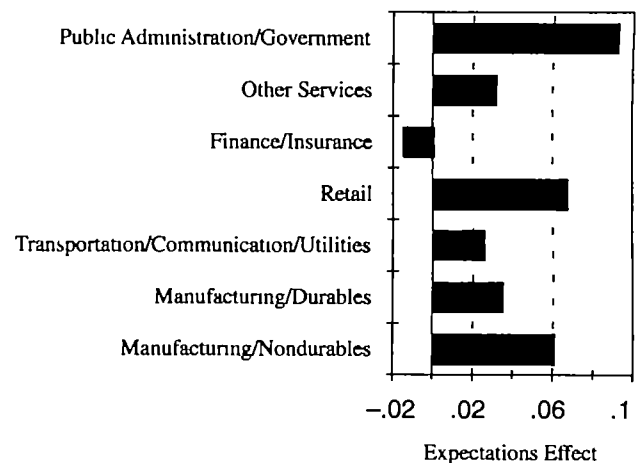
quality, customization, and reliability, respectively. Consistent with the nature of production and consumption in service-oriented sectors, customization is more central to quality for sectors 3, 5, 6, and 7 (average of .909) than for the manufactured goods sectors, 1 and 2 (average of .899). For all sectors, the loadings for the customization measures are significantly higher than the loadings for the reliability measures (for both the expectations and perceived quality constructs). This implies that squeezing more variance out of a manufacturing or service delivery process may not increase perceived quality and customer satisfaction as much as tailoring goods and services to meet customer or market segment needs.

The predictive nature of customer expectations. As was expected, we find that customer expectations are largely rational in that expectations predict quality, value, and customer satisfaction. This is consistent with previous research using the SCSB, which shows that the served market's expectations are relatively stable and accurate, especially in the aggregate (Anderson, Fornell, and Lehmann 1994; Johnson, Anderson, and Fornell 1995).

With regard to the impact of expectations on quality and value, it is useful to look at the sum of the two effects ([expectations on quality] + [expectations on value]). This joint effect is greatest in four sectors: Manufacturing/Nondurables = .68; Transportation/Communications/Utilities = .71; Retail = .81; and Public Administration/Government = .67. The joint effect is smaller in Manufacturing/Durables, Finance/Insurance, and Services (.45, .58, and .59, respectively). These findings are compatible with the argument that expectations are less predictive when variance in consumption and production factors are high (Anderson 1994). On the production side, if a particular good or service is difficult to standardize or quality is relatively unambiguous, variance in consumption experience is greater and expectations should have less influence. Similarly, on the consumption side, if customers are more likely to perceive variance in production—perhaps because of involvement or expertise gained through experience—then expectations should, again, have less influence. For example, customer expectations should be better predictors of quality, value, and satisfaction in those sectors in which customers make frequent and relatively routine purchase and consumption decisions (Howard 1977). When such interactions are less frequent, customers have less direct knowledge and their expectations should be weaker predictors of perceived quality and value.

The findings for the direct association between expectations and satisfaction are similar (see Figure 4). The impact of expectations is larger in two sectors (sector 1: Manufacturing/Nondurables = .06, and sector 4: Retail = .07), in which variance in production and consumption factors is relatively low. The effect is not as high in the other four competitive market sectors. The largest effect of expectations on satisfaction is for sector 7: Public Administration/Government at .09. This may reveal the impact that a negative image can have on satisfaction because of the halo surrounding certain publicly provided services (such as the Internal Revenue Service). This interpretation is consistent with research in which negative factors and

FIGURE 4
The Direct Effect of Expectations on Customer Satisfaction



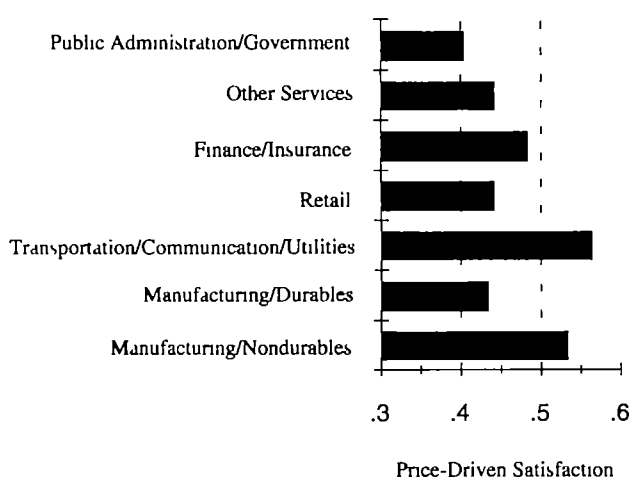
framing effects have a larger impact on evaluations than do their positive counterparts (Kahneman and Tversky 1979). The observed negative effect for Finance/Insurance (-.01) is not significant.

An examination of the total effect of expectations on satisfaction—the direct effect of expectations on satisfaction plus the effect of expectations on overall customer satisfaction through quality and value—yields similar results. Expectations have the greatest impact in the Public Administration/Government (.59) and Retail (.59) sectors, followed by Transportation/Communications/Utilities (.53), Manufacturing/Nondurables (.49), and Services (.47). The total effect of expectations is lowest for the Manufacturing/Durables (.36) and Finance (.41) sectors. For the latter, current quality experiences may be relatively more salient—such as the performance of an automobile or a mutual fund—and may take precedence over previous quality experiences in determining overall customer satisfaction, whereas long-term reputation effects may play a greater role in sectors in which expectations have a greater impact.

Price- versus quality-driven satisfaction. The impact of quality on overall customer satisfaction is greater than that of value in each of the seven sectors. The average direct effect of quality on overall customer satisfaction is .55, whereas the direct effect of value on overall customer satisfaction is .36. The total effect of quality on satisfaction—the direct effect plus the effect through value—averages .76. This difference is consistent with the notion that though value may be more central to the formation of customers' initial preferences and choice, quality, in contrast, is more central to the consumption experience itself.

An important question is how does the relative importance of price versus quality vary across sectors? If price, rather than quality, is driving overall customer satisfaction, the effect of a one-point change in value on overall customer satisfaction should be high relative to the total effect of a one-point change in quality on overall customer satisfaction. A price- versus quality-driven satisfaction ratio is calculated

FIGURE 5
Price-Versus Quality-Driven Satisfaction Ratio



as the impact of a one-point change in perceived value on overall customer satisfaction divided by the total effect of a one-point change in perceived quality on overall customer satisfaction (the direct effect of quality on satisfaction plus the indirect effect of quality on satisfaction through value).

As is shown in Figure 5, relative price-driven satisfaction is greatest in sectors 1 and 3, in which the ratio of effects equals .53 and .56, respectively, compared to an overall average of .47 across sectors. For sector 1 (Manufacturing/Nondurables) the result is consistent with the shift toward price-based competition in this industry, which was observed throughout the 1980s (Buzzell, Quelch, and Salmon 1990), in which price competition is fostered by the availability of low-priced house and generic brands and discount retailing. Price-driven satisfaction is highest for sector 3 (Transportation/Communications/Utilities), in which competition is relatively commodity-based and price plays a correspondingly important role.

Relative price-driven satisfaction is lowest for Manufacturing/Durables (.43), Services (.43), Retail (.44), and Government Agencies (.40), which implies that quality is relatively more central to market behavior in these sectors. For the first two, this finding is consistent with the high involvement and customized nature of the products involved. For Retail, the effects on both quality and value are relatively low. This may be due to the location-driven nature of this sector. The ratio for Public Administration/Government most likely reflects the "take it or leave it" nature of pricing in this sector.

Although our observations are based on aggregation over the wide variety of segments, firms, and industries within a given sector, overall it appears that a ratio of the impact of value to the impact of quality on satisfaction provides a useful measure of price- versus quality-driven satisfaction with strong face validity. In further research, the efficacy of the price-driven satisfaction ratio also should be demonstrated through association with other constructs in the database, as well as through the relationships between those constructs. For example, in industries in which overall

customer satisfaction is relatively price-driven we might expect the effect of overall customer satisfaction on loyalty to be relatively low. At the sector level, we find this to be the case for Manufacturing/Nondurables, yet the Transportation/Communications/Utility sector is average in terms of how sensitive loyalty is to overall customer satisfaction. Thus, the price-driven satisfaction ratio also should be associated with degree of loyalty.

With the notable exception of Manufacturing/Nondurables, we find loyalty to be lower in sectors in which overall customer satisfaction is relatively price-driven. In part, this is driven by relatively high price tolerance because of the low-priced nature of goods sold in that sector. However, repurchase likelihood also is highest in this sector, as well as in the Transportation/Communications/Utilities sector. Clearly, the mixed nature of these findings suggests that additional research on these subjects must carefully control for category characteristics and industrial organization factors, such as switching costs and concentration, that can affect loyalty and the overall customer satisfaction-loyalty relationship.

Discussion and Implications

The American Customer Satisfaction Index represents a significant step forward in the evolution of national satisfaction indicators. It provides an independent and uniform means of assessing the quality of what is consumed and produced in the economy. It is a much needed missing link in what we need to understand about the health of the economy and the individual firms that compete in it. For example, if quality in the United States is declining as a consequence of declining overall customer satisfaction with the service sector, this should be cause for concern.

For public policymakers, ACSI has the potential to be a useful tool for evaluating and enhancing the health of the nation's economy, both in terms of national competitiveness and the welfare of its citizens. In assessing the health of the economy, it can provide an important complement to conventional measures of the quantity of goods and services produced—such as productivity and price indices—and can balance these measures against the quality of goods and services produced. For legislative efforts, ACSI can be useful in predicting and monitoring the effects of public policy decisions on issues as diverse as deregulation, taxes, interest rates, price ceilings, and subsidies. In terms of balance of trade, ACSI can provide an early warning as to whether an industry is vulnerable to competitive encroachment under conditions of free trade.

For managers and investors, ACSI provides an important measure of the firm's past and current performance, as well as future financial health. The ACSI provides a means of measuring one of a firm's most fundamental revenue-generating assets: its customers. Higher customer satisfaction should increase loyalty, reduce price elasticities, insulate current market share from competitors, lower transaction costs, reduce failure costs and the costs of attracting new customers, and help build a firm's reputation in the marketplace (Anderson, Fornell, and Lehmann 1994). As such, ACSI provides a leading indicator of the firm's future finan-

cial health. By establishing a standard measure of quality with clear links to long-term performance, ACSI may even help instill more of a long-term perspective in both management and investors.

The empirical evidence that ACSI is a leading indicator of financial performance is becoming increasingly persuasive. This is true for accounting profits, as well as for shareholder value. Specifically, it has been shown that both the ACSI (Ittner and Larcker 1996) and its Swedish counterpart (Anderson, Fornell, and Lehmann 1994) have a positive association with return on investment. In terms of market value, Ittner and Larcker (1996) estimate that a one-unit change in ACSI is associated with a \$654 million increase in the market value of equity above and beyond the accounting-book value of assets and liabilities. Stock trading strategies based on either the ACSI or SCSB have delivered portfolio returns well above market returns (Fornell, Ittner, and Larcker 1995, 1996). Also, recent results suggest that the public release of ACSI scores causes a significant stock market reaction—positive market adjusted returns for high-scoring firms and negative adjusted returns for low-scoring firms (Fornell, Ittner, and Larcker 1996).

The American Customer Satisfaction Index also has implications for managers formulating competitive strategy. One of its key benefits is that ACSI represents a uniform and comparable system of measurement that allows for systematic benchmarking over time and across firms. In addition, it can be useful in analyzing the strengths and weaknesses of the firm or its competitors. For example, declining overall customer satisfaction is likely to be symptomatic of deeper problems facing a firm. Because ACSI provides a measure of the effectiveness with which a firm is defending current customers, firms with low ACSI scores are particularly vulnerable and provide expansion opportunities for more competent organizations.

For customers, ACSI provides information that is not only useful in making purchase decisions, but also likely to lead to improvements in the quality of the goods and services they consume, as well as in their overall standard of living. The independence, uniformity, and methodology underlying ACSI means that it provides information to buyers not found in ad hoc methodologies employed in product ratings by popular magazines and commercial market research. Moreover, the mere existence of such a measure would likely lead to improvements in the quality of goods and services. In a monopoly situation, ACSI may help police the market. In addition, ACSI should have particularly important implications for both the quality of these services and the prices customers pay for them. In competitive situations, too, ACSI should encourage quality competition and lead to greater customer satisfaction over time. The ultimate outcome should be an improvement in the quality of economic life.

To summarize, ACSI represents a new means of evaluating and enhancing performance for the modern firm and the modern economy. It provides a complement to conventional measures, such as productivity and price indices, that treat quality as a residual. In doing so, it has the potential to move to center stage the quality goods and services—as experienced by the customers of those goods and services—of

firms, industries, and nations seeking to maintain and/or strengthen their positions in the increasingly competitive economic environment that is unfolding as we move into the twenty-first century. Because marketing scholars and practitioners have long recognized that customer satisfaction is an important and central concept, as well as an important goal of all business activity, the role of marketing in this new world should be self-evident.

Appendix

The formal expression of the model depicted in Figure 1 can be written as a series of equations such that the systematic part of the predictor relationships is the conditional expectation of the dependent variables for given values of predictors. The general equation is thus specified as stochastic:

$$E[\eta | \xi] = B\eta + \Gamma\xi,$$

where $\eta' = (\eta_1, \eta_2, \dots, \eta_m)$ and $\xi' = (\xi_1, \xi_2, \dots, \xi_n)$ are vectors of unobserved (latent) endogenous and exogenous variables, respectively, B ($m \times m$) is a matrix of coefficient parameters for η , and Γ ($m \times n$) is a matrix of coefficient parameters for ξ . This implies that $E[\eta\xi'] = E[\xi\xi'] = E[\xi] = 0$, where $\xi = \eta - E[\eta|\xi]$.

The corresponding equation that relates the latent variables in the model is

$$\begin{bmatrix} \eta_1 \\ \eta_2 \\ \eta_3 \\ \eta_4 \\ \eta_5 \end{bmatrix} = \begin{bmatrix} 0 & 0 & 0 & 0 & 0 \\ \beta_{21} & 0 & 0 & 0 & 0 \\ \beta_{31} & \beta_{32} & 0 & 0 & 0 \\ 0 & 0 & \beta_{43} & 0 & 0 \\ 0 & 0 & \beta_{53} & \beta_{54} & 0 \end{bmatrix} \begin{bmatrix} \eta_1 \\ \eta_2 \\ \eta_3 \\ \eta_4 \\ \eta_5 \end{bmatrix} + \begin{bmatrix} \gamma_{11} \\ \gamma_{21} \\ \gamma_{31} \\ 0 \\ 0 \end{bmatrix} \xi + \begin{bmatrix} \zeta_1 \\ \zeta_2 \\ \zeta_3 \\ \zeta_4 \\ \zeta_5 \end{bmatrix},$$

where

- ξ = customer expectations,
- η_1 = perceived quality,
- η_2 = perceived value,
- η_3 = ACSI,
- η_4 = customer complaints, and
- η_5 = customer loyalty.

The general equations relating the latent variables to the measurement variables are

$$y = \Lambda_y \eta + \epsilon,$$

and

$$x = \Lambda_x \xi + \delta,$$

where $y' = (y_1, y_2, \dots, y_p)$ and $x' = (x_1, x_2, \dots, x_q)$ are the measured endogenous and exogenous variables, respectively. Λ_y ($p \times m$) and Λ_x ($q \times n$) are the corresponding regression matrices. By implication from PLS estimation (Fornell and Bookstein 1982), we have $E[\epsilon] = E[\delta] = E[\eta\epsilon'] = E[\xi\delta'] = 0$. The corresponding equations in ACSI are

$$\begin{bmatrix} x_1 \\ x_2 \\ x_3 \end{bmatrix} = \begin{bmatrix} w_{11} \\ w_{21} \\ w_{31} \end{bmatrix} \xi + \begin{bmatrix} \delta_1 \\ \delta_2 \\ \delta_3 \end{bmatrix},$$

and

$$\begin{bmatrix} y_1 \\ y_2 \\ y_3 \\ y_4 \\ y_5 \\ y_6 \\ y_7 \\ y_8 \\ y_9 \\ y_{10} \\ y_{11} \end{bmatrix} = \begin{bmatrix} w_{11} & 0 & 0 & 0 & 0 \\ w_{21} & 0 & 0 & 0 & 0 \\ w_{31} & 0 & 0 & 0 & 0 \\ 0 & w_{12} & 0 & 0 & 0 \\ 0 & w_{22} & 0 & 0 & 0 \\ 0 & 0 & w_{13} & 0 & 0 \\ 0 & 0 & w_{23} & 0 & 0 \\ 0 & 0 & w_{33} & 0 & 0 \\ 0 & 0 & 0 & w_{14} & 0 \\ 0 & 0 & 0 & 0 & w_{15} \\ 0 & 0 & 0 & 0 & w_{25} \end{bmatrix} \begin{bmatrix} \eta_1 \\ \eta_2 \\ \eta_3 \\ \eta_4 \\ \eta_5 \end{bmatrix} + \begin{bmatrix} \varepsilon_1 \\ \varepsilon_2 \\ \varepsilon_3 \\ \varepsilon_4 \\ \varepsilon_5 \\ \varepsilon_6 \\ \varepsilon_7 \\ \varepsilon_8 \\ \varepsilon_9 \\ \varepsilon_{10} \\ \varepsilon_{11} \end{bmatrix},$$

where

- x_1 = customer expectations about overall quality,
- x_2 = customer expectations about reliability,
- x_3 = customer expectations about customization,
- y_1 = overall quality,
- y_2 = reliability,
- y_3 = customization,
- y_4 = price given quality,
- y_5 = quality given price,
- y_6 = overall customer satisfaction,
- y_7 = confirmation of expectations,
- y_8 = distance to ideal product (service),
- y_9 = formal or informal complaint behavior,
- y_{10} = repurchase intention, and
- y_{11} = price tolerance (reservation price).

The general form of the ACSI is as follows:

$$ACSI = \frac{E[\xi] - \text{Min}[\xi]}{\text{Max}[\xi] - \text{Min}[\xi]} \times 100,$$

where ξ is the latent variable for overall customer satisfaction, and $E[\cdot]$, $\text{Min}[\cdot]$, and $\text{Max}[\cdot]$ denote the expected, the minimum, and the maximum value of the variable, respectively. The minimum and the maximum values are determined by those of the corresponding measurement variables:

$$\text{Min}[\xi] = \sum_{i=1}^n w_i \text{Min}[x_i],$$

and

$$\text{Max}[\xi] = \sum_{i=1}^n w_i \text{Max}[x_i],$$

where x_i 's are the measurement variables of the latent overall customer satisfaction, w_i 's are the weights, and n is the number of measurement variables. In calculating the ACSI, unstandardized weights must be used if unstandardized measurement variables are used.

In ACSI, there are three indicators for overall customer satisfaction, which range from 1 to 10. Then, the calculation is simplified to

$$ACSI = \frac{\sum_{i=1}^3 w_i \bar{x}_i - \sum_{i=1}^3 w_i}{9 \sum_{i=1}^3 w_i} \times 100,$$

where the w_i 's are the unstandardized weights.

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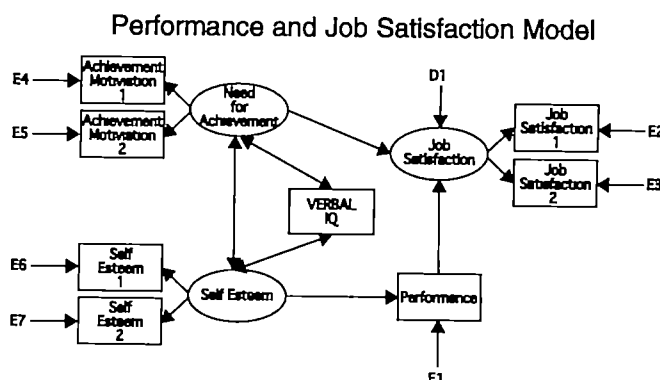
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Interdependency, Contracting, and Relational Behavior in Marketing Channels

The dependency structure between wholesale-distributors and their major suppliers is posited to influence the type of contract—explicit and normative—used. In turn, dependency structure and type of contract is hypothesized to influence wholesale-distributor performance. This process occurs both directly and indirectly through some intermediate constructs, such as long-term orientation, relationship length, and relational behavior. The authors investigate three dependency structures: wholesaler dependent on supplier, supplier dependent on wholesaler, and high bilateral dependency. They obtain empirical support for many of the hypothesized linkages.

Exchange between business firms has become increasingly characterized by nonmarket governance (Dwyer, Schurr, and Oh 1987), or, as Arndt (1979) anticipated over 15 years ago, market transactions have become domesticated. Historically the tendency was to think of nonmarket governance in terms of vertical integration. A firm could avoid the external market by backward or forward vertical integration (Coase 1937). However, Hollander (1964) recognized that interfirm agreements or contracts could be used to achieve results similar to integration, and this same idea has been expressed more recently by Grossman and Hart (1986), Johnston and Lawrence (1988), Spekman (1988), and Heide (1994). Heide and John (1992) suggest that relational norms can be used to govern interfirm relations. Wilson (1980, p. 491) shows that even in markets that appear to be textbook illustrations approximating a perfectly competitive market, such as the fresh fish market, interfirm relations can be “mitigated by a pattern of very personal, long-term, bilateral agreements” in which normative contracts are dominant. Explicit contracts also have been studied. Crawford (1988) shows how long-term relationships can be governed by short-term explicit contracts, and Joskow (1987) shows that the duration of explicit contracts is a function of relationship-specific investments.

Although some research has clearly been conducted on contracts, there is still a lot to learn about when different types of contracts are and should be used to govern relations. Consequently, the conceptual and empirical study of contracts governing business relationships is an important

area of inquiry in marketing channels research. This area is also managerially important, because the misuse of contracts could create irreconcilable conflict and other forms of dysfunctional behavior that could ultimately harm channel member performance.

Relational governance occurs primarily through a set of relational norms that govern acceptable behavior between the exchange partners. In relational governance, implicit or soft contracts identify a set of mutual expectations and understandings between the channel partners, and thus these contracts can be referred to as *normative contracts*. Macauley (1963) finds that businesses often fail to use legal sanctions when disputes arise, even when a hard contract exists. He finds that it was often unnecessary to use legal sanctions, and, if used, the costs or undesirable consequences may be too high. In short, even when hard contracts exist, a normative contract can develop or exist that can be superordinate. It also has been suggested that the dependence structure in a relationship has a bearing on contract form (Macneil 1980, p. 35). Dwyer, Schurr, and Oh (1987, p. 12) state that in relational exchange the basis of future collaboration is “supported by implicit and explicit assumptions, trust, and planning.”

Consequently, it is fairly well recognized that firms govern relations by hard, or explicit, and soft, or normative, contracts but beyond that we know little on an empirical level. In a channels of distribution setting, we empirically investigate how unilateral versus bilateral dependency influences the selection of contract form and how this influences relational behavior and business performance.

Theoretical Background: Contracts

Macneil (1980) suggests that one of the primal roots of contract is society. It is because people are not totally isolated and because they share common needs and tastes with others that contract arises. Another primal root he identifies is specialization of labor and the exchange that results because

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of each person not being totally self sufficient. Next, he mentions choice: If people do not have a choice then contracts become irrelevant. Finally, Macneil identifies the need for an awareness of the future. If people are not aware of the future, they need not contract, because all contracts attempt to project into the future. This implies that contracts are mechanisms that are used in exchange relationships to reduce risk and uncertainty.

Macneil (1980) goes on to distinguish between discrete and relational exchange. These terms have been reviewed in the marketing literature by Dwyer, Schurr, and Oh (1987). Briefly, these authors, drawing heavily on Macneil (1980), summarize these types of exchanges as follows:

Discrete transactions are characterized by very limited communications and narrow content. The identity of parties to a transaction must be ignored or relations creep in (Dwyer, Schurr, and Oh 1987, p. 12, emphasis added).

[R]elational exchange transpires over time; each transaction must be viewed in terms of its history and its anticipated future. The basis for future collaboration may be supported by implicit and explicit assumptions, trust, and planning. Relational exchange participants can be expected to derive complex, personal, noneconomic satisfactions and engage in social exchange. Because duties and performance are relatively complex and occur over an extended time period, the parties may direct much effort toward carefully defining and measuring the items of exchange. Third parties may be called in to adjudicate, and other customized mechanisms for collaborating and resolving conflict may be designed (Dwyer, Schurr, and Oh 1987, p. 12, emphasis added).

It is widely accepted that discrete and relational exchange are not simply two categories of exchange, but instead that exchanges can run on a continuum from discrete to relational (Anderson and Narus 1991; Dwyer, Schurr, and Oh 1987; Heide and John 1992).

The concepts of explicit and normative contracts are similarly not categorical variables. On the contrary, contracts can vary in terms of their explicitness, hardness, concreteness, or what Macneil (1980) refers to as *presentation*. Presentation is a concept used to denote the extent to which an explicit contract attempts to see into the future and explicitly state today (i.e., in the present) how various situations that might occur in the future would be handled if they were to occur (e.g., price inflation clauses in industrial purchasing contracts, express warranties that address product failure).

Similarly, contracts can vary in terms of their normative nature. Contracts are normative when a mutual understanding exists between parties as to how they will interact and deal with each other, including the handling of future contingencies. Rousseau (1995, p. 51) states that "normative contracts reflect a social consensus and reinforcement of specific behaviors and exchange patterns." A variety of similar contracting terms are often encountered. Rousseau (1995) distinguishes between four types of soft, or nonexplicit, contracts. These four types of soft contracts are categorized into a two-by-two matrix in which one dimension is level of orientation—either individual or group—and the second dimension is perspective—viewed either within by insiders or externally by outsiders. Psychological contracts

are individual and viewed from within, normative contracts are group-oriented and viewed from within, implied contracts are individual-oriented and viewed from the outside, and social contracts are group-oriented and viewed from the outside (i.e., society). We focus on normative contracts or how the members of a channel mutually understand their obligations to each other.

It is important to recognize that explicit and normative contracts are not opposite ends of a continuum. People could have a highly explicit contract but still have a social consensus or mutual understanding among group members, which forms the basis of the normative contract. Or, people could have no explicit contract and a normative contract or an explicit contract and no normative contract.

Furthermore, it is important to clarify that discrete exchange and explicit contracts and relational exchange and normative contracts are not the same constructs. In other words, discrete exchange does not imply strictly the use of explicit contracts nor does relational exchange imply that merely normative contracts are governing exchange. There can be a situation of discrete exchange based on a normative contract. For example, when purchasing a newspaper from a coin-operated vending machine, a person takes only one copy and not several copies because of the norms governing this type of discrete transaction. Or alternatively, a person could have a relational exchange in which an explicit contract is used, such as in a exclusive distribution agreement between a manufacturer and wholesale-distributor or a franchise contract between a franchisor and franchisee.

Although contract format and exchange format are not identical constructs, they are theoretically related. Gundlach and Murphy (1993) suggest that predominantly legal and formal agreements characterize the transactional exchange end of the continuum more than what they call *ethical principles*, which tend to characterize the relational end of the continuum.

This is consistent with Macneil (1980), who argues that in relational exchange a person cannot anticipate all contingencies and make complete plans. Thus, these contracts have many tacit assumptions: "Such assumptions may range from general ones such as trust to the highly specific, such as assumptions about particular and precise trade usages" (Macneil 1980, p. 25). Even the Uniform Commercial Code (UCC) recognizes the role of tacit assumptions and normative contracts. Specifically, three terms are especially relevant to this discussion: *course of dealing*, *usage of trade*, and *course of performance*. The UCC defines these terms as follows:

A *course of dealing* is a sequence of previous conduct between the parties to a particular transaction which is fairly to be regarded as establishing a common basis of understanding for interpreting their expressions and other conduct. (UCC 1-205[1], White and Summers 1972, p. 84).

A *usage of trade* is any practice or method of dealing having such regularity of observance in a place, vocation or trade as to justify an expectation that it will be observed with respect to the transaction in question. (UCC 1-205[2]; White and Summers 1972, p. 84).

Course of performance is defined in 2-208(1). Where the contract for sale involves repeated occasions for perfor-

mance by either party with knowledge of the nature of the performance and opportunity for objection to it by the other, any course of performance accepted or acquiesced in without objection shall be relevant to determine the meaning of the agreement. (White and Summers 1972, p. 84).

The three preceding terms are especially important when dealings are of a relational versus a transactional or discrete nature, because they rely on sequences of previous conduct to determine the meaning of a contract. Thus, when the contract is less than specific, the course of dealing, usage of trade, and course of performance can be used to fill in any gaps in explicit contract language.

That the law recognizes that norms or tacit assumptions can develop the longer exchange parties interact and have a long-term orientation is consistent with some findings in legal research. Ellickson (1991) finds this type of behavior in his study of how farmers and ranchers who are long-term neighbors settle disputes. In his research, Ellickson (1991) finds that farmers and ranchers attain social control through normative contracts and not through the exercise of legal proceedings against each other. Macauley (1963) also finds that business people often ignore the technically correct legal implications of contracts into which they enter.

An explicit contract can actually result in areas of unilateral dependence or power (Macneil 1980, pp. 31–35). This is because the contract spells out who has control in certain situations or circumstances or decision areas.¹

A Model of Interdependency and Contracting in Relational Exchange

Although the study of discrete exchange is of potential value, our model and study focuses on contracting in relational exchange. In Figure 1, we present a preliminary model of some of the antecedents and consequences of contracting in relational exchange channels. In this model, we assume that the parties involved in the channel are not interacting on a discrete or one-time basis but have a series of recurring transactions. Thus, even though we are dealing within the context of relational exchange, we recognize that considerable variation in dependency structure, contract form, and relational behavior can occur in such a setting. We stress that this model is only a partial model and does not purport to represent all the possible antecedents and consequences of contract form. Essentially, we argue that the dependency structure in the relationship influences the degree of long-term orientation toward that relationship and the type of contract used. In turn, these factors influence relational behavior. We also speculate in this model that these processes influence performance. In regard to this last linkage in the model, we assume that performance is the

result of various dependency structures, contract form, and relational behavior. Although this is the traditional way that channel behavior models are presented, it certainly is possible, in a longitudinal sense, that performance outcomes cause feedback and influence the dependency structure, relational behavior, and even the use of various contract forms. The study of these more complex dynamic linkages are beyond the scope of this research.

In viewing the model in Figure 1, note that we posit certain antecedents of contract form and certain consequences. The two types of antecedents are the dependency structure and temporal characteristics in the channel relationship. Two consequences are relational behavior and channel member performance.

The model is set in a distribution channel consisting of wholesale-distributors and suppliers. This setting is one in which relational exchange versus discrete exchange is common, because suppliers do not change wholesale-distributors frequently but rather tend to have long-term enduring relationships with them. Nonetheless, in this channel setting, some relationships are characterized by high bilateral dependence in which both supplier and wholesale-distributor are highly dependent on each other; and in other situations, there is unilateral dependence in which either the supplier or wholesale-distributor holds the balance of power.

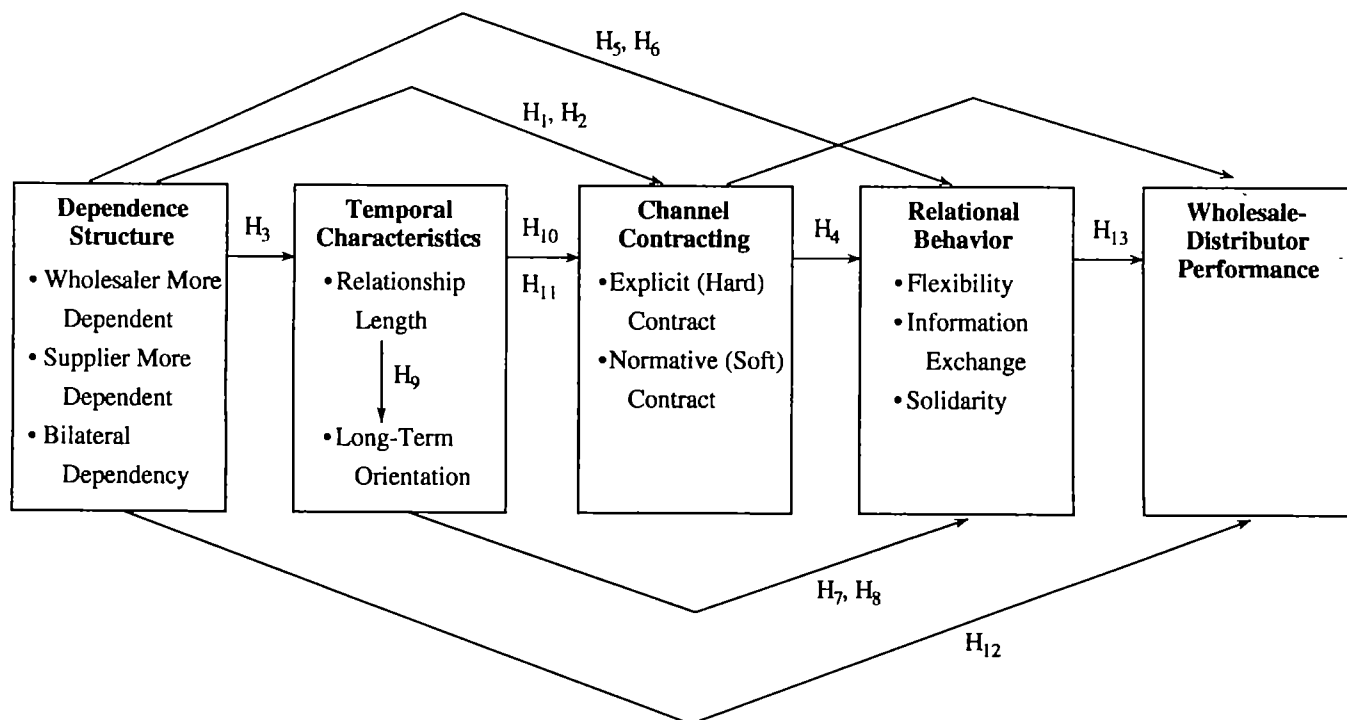
Dependence Structure and Channel Contracting

The dependency relationship is expected to have an impact on the type of contract used. A wholesale-distributor and supplier that are dependent on each other will only continue to interact or exchange as long as each party benefits. Thus, if one party is more powerful (less dependent) than the other and makes uneconomic demands to the extent that the other ends up being worse off compared to the alternatives it has outside the relationship (Anderson and Narus 1984; Buchanan 1992), the probability that the weaker party will terminate the relationship increases.

One of the things that a more powerful (less dependent) party might demand is an explicit contract that gives it the concessions it wants. Heide and John (1992) find that more powerful or dominant firms can extract safeguards. An explicit contract, which the more dominant party has the upper hand in writing, is one such safeguard. Although the weaker party cannot be expected to be pleased about the other party having a strong hand in writing the explicit contract, it will go along with the use of an explicit contract because at least the contract will set parameters on what the more powerful party can legitimately do. Furthermore, the weaker party may have no choice unless it has more attractive alternatives. Consequently, these weaker parties do not get much in terms of explicit contractual safeguards (Heide and John 1990). An example of this practice would be franchise contracts that the more powerful franchisor writes. These contracts strongly favor the franchisor, and the potential franchisee can either accept the terms or walk away from the deal. The potential franchisee often has essentially a “no choice” decision. Because the franchise may be potentially more attractive and stable to the potential franchisee than starting a new independent business, the potential franchisee

¹Although we recognize that contract form can influence the dependency structure, our overall model (Figure 1) does not test for this relationship. As will be discussed subsequently, we hypothesize the primary relationship to be between dependency structure and contract form. Only longitudinal data or experimental data would be able to assess the fundamental nature of this relationship. Because our study is one of the first in this area, we leave this worthwhile endeavor to further research.

FIGURE 1
A General Model of Interdependency, Contracting, and Relational Behavior in Marketing Channels



may believe it has no reasonable alternative other than to sign the extremely one-sided agreement.

For these reasons, we expect that in a situation in which either the supplier is more dependent on the wholesale-distributor or vice versa explicit contracts would be more prevalent. Heide (1994) suggests that with unilateral non-market governance, binding contingency plans will exist, as will explicit mechanisms for change. Mechanisms are designed into the contract a priori by which changes will be carried out if situations change, such as in the case with contract escalator clauses (Heide 1994).

Furthermore, Etgar and Valency (1983) argue that increased distributor dependence makes the retailer vulnerable to the whims of the supplier. In other words, dependence creates uncertainty for the weaker channel partner. The use of explicit contracts reduces that uncertainty. In their study of Israeli distributor-supplier relations, Etgar and Valency (1983) find that the more dependent on the supplier the distributor was, the greater the extent to which a formal agreement was signed between the distributor and the major supplier. It could certainly be argued that the more powerful channel member would not need an explicit contract because it would not need any safeguards; the weaker party could do little harm to it because of its less powerful position. The problem with this argument is that it goes against the strong empirical evidence that more powerful channel partners, such as franchisors, extensively use explicit contracts. These explicit contracts make it more efficient to coordinate marketing and other business activities across a large number of geographically diverse channel partners. They also

provide the franchisor with a means to protect its trade name.

We expect that unilateral dependence does not give rise to more normative contracts. The stronger party does not take the risk that a weaker party will fulfill its end of a deal, and similarly the weaker party may have some latent or overt distrust of the more powerful party and not want to rely on a normative contract. If the weaker party were abused, there is little it could do to protect itself because it is highly dependent on the more powerful party.

The preceding discussion leads to the following hypotheses.²

H₁: High unilateral dependence leads to more explicit contracts and less normative contracts governing relational exchange:

- (a) The more the wholesale-distributor is dependent on the supplier, the more explicit is the contract governing the relationship.
- (b) The more the supplier is dependent on the wholesale-distributor, the more explicit is the contract governing the relationship.

²It could be argued that because the hypotheses for the wholesaler's greater dependence on the supplier versus the supplier's greater dependence on wholesaler are not different, that we could develop a single construct, "asymmetrical dependence," and hypothesize that the higher the asymmetrical dependence the less the use of implicit contracts and the more the use of explicit contracts. Viewed in isolation this would be true for H_{1a} through H_{1d}; however, in subsequent hypotheses and our model overall (see Figure 1), it is important to measure separately wholesaler dependence on the supplier and supplier dependence on the wholesaler.

- (c) The more the wholesale-distributor is dependent on the supplier, the less the normative contracts are used to govern the relationship
- (d) The more the supplier is dependent on the wholesale-distributor, the less the normative contracts are used to govern the relationship

An increased level of interdependence between a supplier and its wholesale-distributor reflects an increased level of commitment to the relationship by both parties (Dwyer, Schurr, and Oh 1987). By definition, the higher their interdependence, the more firms rely on each other for the performance of channel functions, as well as for access to scarce resources. This joint motivational investment provides both firms with an incentive to make the relationship work and endure (Buchanan 1992). At the same time, they can be expected not to act opportunistically (Buchanan 1992), because opportunism by one firm is likely to provoke retaliation by the other (Provan and Skinner 1989). This spiral of opportunism can jeopardize the firms' mutual stake in the relationship.

To make the relationship work and endure and to avoid opportunistic behavior, firms develop understandings, both explicit and implicit, regarding obligations, rules, outcomes, contributions, and sanctions germane to their relationship (cf. Ring and Van de Ven 1994). Thus, both explicit and normative contracts are instrumental in shaping relational behavior in which channel firms are bilaterally dependent.

For example, Heide (1994) suggests that, with bilateral nonmarket governance, plans are subject to change and changes are predominantly negotiated through mutual adjustment (i.e., through a normative contract). The plans are not complete or specific, because the enforcement of obligations follows from a mutuality of interest that exists between the parties. Social controls supplement formal controls (cf. Noordewier, John, and Nevin 1990), and channel members make mutual adjustments and develop working rules to coordinate activities (Young and Wilkinson 1989). Arndt (1979, p. 71) states that in domesticated markets (which are often characterized by high bilateral dependency), stability in the relationship may develop from "implicit agreements and understandings." Accordingly,

H_{2a}: High versus low bilateral dependency leads to more normative contracts governing the relationship between suppliers and wholesale-distributors.

As was noted previously, normative contracts supplement and reinforce explicit contracts and vice versa (Ring and Van de Ven 1994). Therefore, we expect both types of contracts in relationships characterized by high bilateral dependency. On the other hand, transaction cost economics suggests that highly explicit contracts are less needed when high bilateral dependency exists (Williamson 1975, 1981). With high bilateral dependency, neither party can afford to damage the relationship by acting opportunistically. This bilateral dependence, therefore, lessens opportunistic behavior, thus minimizing the need for a highly explicit contract to safeguard transaction-specific assets against opportunism. For example, if a provision of an explicit contract were violated, the parties would find a way to work things out just as they would with a normative contract. Even though explicit contracts may exist among highly symmetrically dependent

parties, these contracts are likely to be shorter and less precise in their wording. Given these two opposing views, we expect that, on balance

H_{2b}: High bilateral dependency is not associated with explicit contracts governing the relationship between suppliers and wholesale-distributors.

Dependence Structure and Long-Term Orientation

When mutual dependence between a wholesale-distributor and its supplier is high, both parties have a high stake in ensuring the relationship's success (Buchanan 1992). In such cases, both parties have invested time, effort, and money in the relationship and are committed to the relationship (Anderson and Weitz 1992). This implies a long-term orientation toward the relationship (cf. Morgan and Hunt 1994). Thus, we expect that

H_{3a}: When bilateral dependence between a supplier and wholesale-distributor is high, the wholesale-distributor's long-term orientation toward the relationship will be greater.

The wholesale-distributor is more likely to have a long-term orientation when it has more at stake (i.e., when it is more dependent) than the supplier. It makes unilateral investments in the relationship to ensure that it continues to have access to the supplier's resources (Buchanan 1992, p. 68; Ganesan 1994, p. 4). These unilateral investments increase the wholesale-distributor's dependence on the supplier. Thus, following Ganesan (1994, p.4), we posit that

H_{3b}: The more the wholesale-distributor is dependent on the supplier, the greater the wholesale-distributor's long-term orientation.

On the other hand, when wholesale-distributors see their suppliers as being dependent on them, they have little incentive to view the relationship as long-term. To shift to a long-term orientation, wholesale-distributors would need to make idiosyncratic investments that would increase the cost of the relationship. This increased cost is likely to reduce the net gain from the relationship below that which is available from alternative relationships (Buchanan 1992; Ganesan 1994). Thus, when the supplier is more dependent, the costs to the wholesale-distributor of taking a long-term orientation exceeds its benefits (Ganesan 1994). Accordingly, we believe that

H_{3c}: The more the supplier is dependent on the wholesale-distributor, the less is the wholesale-distributor's long-term orientation.

Behavioral Implications of Contracts

Contracts will undoubtedly influence behavior. Clearly, an explicit contract formally states how parties to the contract should behave over time. Similarly, normative contracts suggest that group members are expected to follow certain patterns of behavior (Rousseau 1995, pp. 49–50). In a relational channel setting, we expect that when a normative contract exists channel members are more likely to engage in behavior that is consistent with the normative contract.

Because normative contracts should influence relational behavior, one place to look for the type of behavior than can

be expected is in the literature on relational norms. Heide and John (1992) develop measures for three partially overlapping norm types: flexibility, information exchange, and solidarity. We believe that these three components are particularly appropriate in a wholesale-distributor context. Wholesalers provide both promotional and logistical services (Stern, El-Ansary, and Coughlan 1996); however, they are often best known for their logistical role. It is these logistical services that are often most subject to unexpected change in the channel and the environment, which thus reinforces the importance of flexibility and information exchange. Dahlstrom, McNeilly, and Speh (1996) demonstrate that Heide and John's (1992) three relational norms are relevant to the procurement of logistical services. Logistical services, such as transportation, warehousing, repackaging, and inventory management, require a high degree of information exchange, and that need is a major rationale for electronic data interchange. Furthermore, because of unexpected changes in both supply and demand, the wholesalers, which serve as a buffer between manufacturers and retailers and/or end users, must be flexible and adaptive to changing circumstances. Finally, we believe that for virtually all channel contexts, solidarity is an important component of the relationship that develops. For these reasons, we believe that these three components (flexibility, information exchange, and solidarity) were appropriate in the channel context we studied, and our exploratory interviews with a dozen wholesalers reinforce this belief.

Gundlach, Achrol, and Mentzer (1995) discuss the structure of commitment in exchange and suggest that the greater the commitment by exchanging parties the greater the relational nature of social norms. One way that commitment may be demonstrated is by the development of a normative contract. Such contracts involve an attitudinal commitment in which common identification or value congruence occurs. This type of commitment could foster the development and reinforcement of relational behavior.

H_{4a}: The more that normative contracts govern a relationship between a supplier and distributor, the greater is the presence of relational behavior.

In general, we anticipate that explicit contracts, similar to normative ones, will prescribe appropriate behaviors as well as proscribe inappropriate behaviors in the channel relationship. Thus, explicit contracts should lead to relational behavior to the extent that they are expressed in these agreements. On the other hand, explicit contracts may undermine relational behavior. For instance, Young and Wilkinson (1989) find that written agreements between channel members produce more conflict than do unwritten agreements and that more conflict is associated with a less relational orientation (viz., less trust). On balance, then, we predict that

H_{4b}: The extent to which explicit contracts are used to govern the relationship between a supplier and its distributor has no significant bearing on the degree of relational behavior between those two parties.

Dependence Structure and Relational Behavior

The structure of interdependency also can be expected to influence relational behavior. Buchanan (1992) implies that

the symmetry or asymmetry of dependence sets boundaries on the extent to which relational norms can be developed. Because relational norms can be expected to lead to relational behavior, we expect interdependency to influence relational behavior.

If dependency is high and symmetric (i.e., there is bilateral dependency), both channel members have a large stake in the relationship, which makes them interested in maintaining a quality relationship characterized by strong relational behavior (Dwyer, Schurr, and Oh 1987). In such conditions, we expect each party to have a vested interest in sharing information and being flexible, because both the individual and joint payoffs are high. Furthermore, their high level of mutual dependency leads channel members to engage in less conflict (Young and Wilkinson 1989), thereby enhancing behavioral solidarity. Moreover, high bilateral dependency fosters the development of relational behavior by inhibiting opportunism, which is its antithesis (Heide and John 1990).

When dependency is unilateral, one party has more power over the other (Emerson 1962). In such a channel, the weaker channel member contributes to the relationship; however, the more powerful party is less likely to contribute as much to the relationship (Buchanan 1992). The stronger channel member may request or even demand information from the weaker firm but not reciprocate in kind. In response to changes in the environment, the stronger firm may want flexibility from the weaker party but will not be flexible in meeting its partner's requests or pleas. Thus, we do not expect relational behavior to flourish under conditions of unilateral dependency. In brief, in channels with low levels of mutual dependency, neither party has much stake in the relationship; therefore, relational behavior will not develop to a significant degree.

H₅: Unilateral dependence influences relational behavior:

- (a) the more the wholesale-distributor is dependent on the supplier, the less is there the presence of relational behavior.
- (b) the more the supplier is dependent on the wholesale-distributor, the less is there the presence of relational behavior.

H₆: High bilateral dependence between a supplier and a wholesale-distributor increases relational behavior.

Temporal Characteristics and Relational Behavior

There are two other factors that could be expected to influence relational behavior: First, the longer a wholesale-distributor and supplier have been doing business the more likely relational behavior will develop. Second, when parties are in an extended relationship and expect it to continue, they can be expected to accept short-term disadvantages, because in the long run things should even out (Noordewier, John, and Nevin 1990). Consequently, when there is an expectation of relational continuity, relational behavior should be fostered. Ganesan (1994) makes the important point that long-term orientation and relationship duration are distinct. A long-term orientation better captures how close the working relationship is, whereas the duration of the relationship, though probably related to long-term orientation, may not capture closeness.

H₇: The longer a supplier and wholesale-distributor have had a business relationship, the greater is the degree of relational behavior.

H₈: The greater the long-term orientation of a wholesale-distributor toward its relationship with its supplier, the more relational behavior should develop.

Relationship Length and Long-Term Orientation

As Ganesan (1994) notes, the duration of a channel relationship is likely to affect the parties' expectations that the relationship will continue. In other words, older relationships are more familiar and comfortable, and adjustments and accommodations have been made (Anderson and Weitz 1989). Therefore, older relationships are expected to continue into the future. Thus, we posit the following:

H₉: The longer the relationship between the wholesale-distributor and its supplier, the greater is the wholesale-distributor's long-term orientation.

Long-Term Orientation and Channel Contracting

The extent to which contracts in a channel relationship are used varies according to the channel members' orientation toward that relationship. Channel members can view their relationships as short-term and attempt to maximize their profits within a specific transaction. Firms with a long-term orientation, however, attempt "to maximize their profits over a series of transactions [with their channel partner]" (Ganesan 1994, p. 3). With a long-term orientation, relationships among channel firms become more complex in response to increasing interdependence (see H₁). To regulate such long-term relationships, more complex contracts are required (Rousseau and Parks 1992, p. 30).

Explicit contracts become more complex by codifying the informal understandings and commitments made in the initial stages of the channel relationship (Ring and Van de Ven 1994; Weitz and Jap 1995). This is to ensure continuity in the relationship beyond the tenure of the initial contracting agents. Furthermore, firms taking a long-term versus short-term orientation to their channel relationships are likely to be more trusting (Anderson and Weitz 1989; Ganesan 1994), share similar norms and values, and be more cooperative (Morgan and Hunt 1994). In such situations, normative contracts become even more involved and supplement (or, in some cases, even supplant) explicit contracts (Macaulay 1963). Thus, when firms expect their channel relationships to continue, they rely heavily on both explicit and normative contracts.³ Accordingly,

³It might be interesting to speculate how contract form could affect long-term orientation. For example, if two parties had an explicit contract for ten years, might it influence their long-term orientation. Although we measured the presence of explicit and normative contracts, we did not measure how long these contracts existed. What we did measure was the overall length of the relationship, and in H₉, we examined how the length of the relationship could influence long-term orientation. It also could be argued that because a normative contract is essentially a metarelational norm, its presence would foster a long-term orientation. We do not test for this possibility because we believe the strongest effect would be from long-term orientation to reliance on normative contracts as is hypothesized in H_{11a}.

H_{10a}: Wholesale-distributors with a long-term orientation to their relationship with their suppliers will rely more on explicit contracts than will those with a short-term orientation.

H_{10b}: Wholesale-distributors that have had long relationships with their suppliers will rely more on explicit contracts than those who have had short relationships.

H_{11a}: Wholesale-distributors with a long-term orientation to their relationship with their suppliers will rely more on normative contracts than will those with a short-term orientation.

H_{11b}: Wholesale-distributors that have had longer relationships with their suppliers are more likely to rely on normative contracts than those who have had short relationships.

Essentially, contracts, either explicit or normative, are viewed as coordinating mechanisms, and the longer the relationship and long-term orientation the more the investment in and use of these coordinating mechanisms.

Wholesale-Distributor Performance

The party that has the most power or is the less dependent on the other is the one that can extract the best exchange terms (Beier and Stern 1969). Sellers' markets are situations in which the buyer has relatively few options and thus the seller can extract a higher price. On the other hand, in a buyer's market, the seller has relatively few options and receives a relatively low price. Buchanan (1992) suggests that when dependency is asymmetric the performance of the weaker party declines. Noordewier, John, and Nevin (1990) find that decreased dependence may give buying firms more leverage with suppliers. Specifically, they find that performance, which is measured as the percentage of on-time deliveries, increased as the buying firm became less dependent on the supplier.

Furthermore, high bilateral dependence also can have a positive impact on performance. Anderson and Narus (1991, p. 101) argue that with bilateral governance "there is mutual interest in cooperating to find ways to add value or reduce cost and in equitably sharing these relationship benefits." Consistent with this, Buchanan (1992) finds that performance rises when dependence is symmetric and high. Gundlach, Achrol, and Mentzer (1995) suggest that when commitment to the exchange relationship is disproportionate, the propensity for opportunistic behavior on the part of the less-committed party is higher. Finally, Kalwani and Narayandas (1995) empirically examine the influence that long-term manufacturer-supplier relationships have on supplier performance. Although they do not identify whether these relationships are symmetric or asymmetric, the examples and anecdotal evidence provided suggests that these relationships are generally symmetric, with perhaps a bit of the balance of power in favor of the manufacturer. They find that in these long-term relationships supplier firms achieved higher levels of financial performance over a six-year period, compared to those suppliers not involved in long-term relationships.

H₁₂: Dependency is related to wholesale-distributor performance:

(a) The more dependent the wholesale-distributor is on the supplier, the lower is the wholesale-distributor's performance.

- (b) The more the supplier is dependent on the wholesale-distributor, the higher is the wholesale-distributor's performance.
- (c) High bilateral dependence between supplier and wholesale-distributor leads to high wholesale-distributor performance.

The distributor's performance is not only influenced by the dependency structure but also by relational behavior. For example, the more channel firms exchange information with each other, the better they are able to anticipate and respond to each others' needs. The better channel members are able to fulfill each others' needs, the higher is the level of performance individual firms and the channel as a whole can attain. Similarly, greater flexibility among channel firms enables them to adapt more rapidly to environmental changes. The quicker they can respond to these changes, the greater will be their performance. When channel firms behave toward each other with solidarity, they jointly try to solve both individual and common problems. They also attempt to improve the relationship as a whole. By working together in the channel, firms pool their talents, skills, and financial resources to achieve higher levels of performance than would be possible without such solidarity in their actions. Thus, by freely exchanging information, remaining flexible in their dealings, and acting in solidarity with each other, channel members can achieve higher levels of performance. In short,

H₁₃: The greater the relational behavior, the higher the wholesale-distributor's performance.

As Jeuland and Shugan (1983) demonstrate, total channel profits can be enhanced when channel partners coordinate their activities. They describe several mechanisms for coordination. The first is vertical integration, in which the factors of distribution (e.g., warehouse facilities, retail outlets) are owned by a single firm. Because our focus is on relationships between independently owned wholesalers and suppliers, the impact of vertical integration on performance is beyond the scope of our research. We direct the interested reader to Williamson (1985) or Stern, El-Ansary, and Coughlan (1996) for a fuller discussion of this issue.

The second mechanism for coordinating channel activities is the use of explicit contracts, which "...specify each channel member's decision variables" (Jeuland and Shugan 1983, p. 250). When environmental uncertainty is manageable and the costs of their enforcement are reasonable, explicit contracts—as with any coordination mechanism—can expand the profitability of the entire channel, thereby increasing the potential for enhanced individual firm performance.

By building the appropriate incentives into its pricing schedules, a supplier can motivate its wholesale-distributors to perform the channel functions it desires. "These schedules allow implicit profit sharing by allowing channel members to transfer the costs of unilateral actions" taken on behalf of the channel as a whole (e.g., point-of-sale promotion, product quality improvement) (Jeuland and Shugan 1983, p. 262). Thus, a second means for coordinating channel activities is the channel-pricing schedule. Because pricing schedules are printed either in the contract or as a separate price list, we consider them to be part of the explicit contract.

Another coordination device is implicit understandings or normative contracts. As Shugan (1985, p. 447) suggests, "implicit understandings evolve over time" and result from channel member learning. Channel members factor into their decisions how they expect their partners' to react to those decisions. They revise these expectations and modify subsequent decisions accordingly as they gain more experience with their channel partners. Channel partners do the same. After a while, channel members' expectations about each others' decisions and reactions stabilize. These stable expectations then represent the implicit understandings channel members have about each other's behavior. Shugan (1985) shows analytically how these implicit understandings or normative contracts can lead to increased profit for the channel as a whole as well as for each channel member. Thus, based on the work of Jeuland and Shugan (1983) and Shugan (1985), we argue that coordination achieved through either explicit or normative contracting enhances performance.

H₁₄: Contracting affects the level of wholesale-distributor performance:

- (a) The more that explicit contracts govern relationships between suppliers and wholesale-distributors, the higher is the wholesale-distributor performance.
- (b) The more that normative contracts govern the relationship between suppliers and wholesale-distributors, the higher is wholesale-distributor performance.

Research Design

To test the hypotheses and the general model in Figure 1, we examined the channel relationships between wholesale-distributors and their suppliers. We selected this setting for two key reasons. First, because suppliers do not change their wholesale-distributors often, these channels are more likely characterized by relational as opposed to discrete exchange. Second, with some notable exceptions (e.g., Anderson and Narus 1984, 1990; Frazier and Rody 1991), channels research has concentrated on manufacturer-retailer and franchisor-franchisee linkages, virtually ignoring the wholesaler's role. Because we know relatively little about these channel members from both an economic and behavioral perspective, we used this study as an opportunity to extend our knowledge of this important channel institution.

We focus our study on relations between wholesale-distributors and their major suppliers as perceived by the wholesale-distributor. In particular, wholesale-distributors were asked for their perceptions, along a variety of dimensions, of their firm's relationship with its major supplier. The major supplier was defined as the supplier with which the wholesale-distributor did the most business. We used the major supplier as the frame of reference because we believed that respondent recall of the largest supplier would be more accurate.

Sampling

We selected a systematic random sample of 3225 firms from a mailing list of all U.S. merchant wholesalers and agents or brokers in 16 four-digit standard industrial classification (SIC) codes. Distributors carried either durable goods (SIC codes 5031, 5044, 5045, 5064, 5072, 5091, 5092, and 5094)

or nondurable goods (SIC codes 5112, 5141, 5142, 5143, 5145, 5192, 5194, and 5198). We further restricted our sample to firms with fewer than 10 to 20 employees. These smaller firms tend to have only one sales office and/or warehouse, and frequently the general manager is the owner of the firm. These owners and/or general managers, because of the nature of their position, have access to both financial and other relevant information that would help them respond to the questionnaire. Thus, sampling a single key informant, the general manager, is appropriate in this setting. Despite these advantages of our sampling plan, by restricting our survey to smaller wholesalers, we cannot necessarily generalize the results to all wholesalers. However, it should be recognized that a large number of merchant wholesalers have less than 20 employees. For example, in the 16 lines of wholesale trade we studied, 82% of merchant wholesalers have fewer than 20 employees, and according to the 1992 Census of Wholesaling, these firms account for 32% of the sales in these 16 industries. Consequently, our study is reflective of a large proportion of wholesale-distributor-supplier relationships on the topics studied but clearly does not reflect the majority of economic activity in these industries.

Despite only sampling wholesale-distributors, and small ones at that, we believed we would tap a variety of dependency structures by concentrating on the wholesale-distributor's relationship with its major supplier. In addition, because they serve particular niche markets, a firm with 10 to 20 employees and several million dollars in annual sales can be a relatively large player in the industry. The average wholesaler in our sample had 45 suppliers (standard deviation = 102.4 suppliers), with the major supplier accounting for 49% of the firm's annual volume (standard deviation = 28.3%). Thus, we were successful in tapping a variety of dependence structures.

To enhance the response rate, we did several things. A survey packet with a personalized cover letter and a one dollar response incentive was mailed. We offered the responding firms a copy of the survey results. If a survey packet was returned as undeliverable, we mailed a questionnaire to a replacement firm. One month later, a second survey packet and cover letter, but no financial incentive, was mailed to nonrespondents. By the end of the second month, we terminated data collection. The study yielded a response rate of 28.8%. We here only report on the respondents that were wholesale-distributors and exclude the agent or broker firms. Thus, our sample was composed of 454 respondents who provided usable data.

Measurement

Using a structured questionnaire, we measured the five basic constructs of Figure 1—dependency, contract form, relational behavior, long-term orientation, and wholesaler business performance. To ensure the content validity of the measures, a thorough review of the relevant academic and practitioner literature, as well as of extensive practitioner pretesting, was undertaken.

Dependency. The wholesale-distributor was asked to rate its perceptions of (1) its dependency on its major supplier and

(2) how dependent its major supplier was on it. Three items were used to measure each aspect of dependency (see Appendix A). Responses were gathered on a seven-point scale, with endpoints of "strongly agree" and "strongly disagree." Higher scores represent higher dependency.

We also asked each wholesaler how long (in years and months) it had been doing business with its major supplier. This represented our measure of relationship length (we converted the number of months to fractions of a year).

A confirmatory factor analysis indicated that three factors (i.e., wholesale-distributor dependence, supplier dependence, and length of relationship) fit the data acceptably ($\chi^2 = 15.94$, $df = 12$, $p = .19$; goodness-of-fit index [GFI] = .99; comparative fit index [CFI] = 1.00; Tucker-Lewis index [TLI] = 1.00). The composite reliability coefficients for both dependency measures exceeded Nunnally's (1978) .70 guideline (supplier dependence = .88, wholesale-distributor dependence = .87). The reliability of our relationship length measure, because it is a single item, cannot be determined; however, our dependency measures appear reliable and unidimensional.⁴ We base our conclusion on the nonsignificant χ^2 test, as well as on the goodness-of-fit measures that all exceed Bollen's (1989, p. 274) .90 rule of thumb.

Contract form. We examined two contract forms: explicit contracts and normative contracts. To our knowledge, no one has developed a behavioral-based measure of these constructs. Therefore, we needed to develop perceptual measures of the extent to which both explicit and normative contracts govern the channel relationship.

Wholesale-distributors typically have some type of letter of agreement and/or formal contract with their suppliers. To assess the extent to which these contracts are highly explicit or have a high level of *presentation*, as Macneil (1980) uses the term, we had the respondents rate their distribution contracts and agreements on six key dimensions (see Appendix A). Shortly after we conducted our research, Heide's (1994) work on interorganizational governance appeared. Heide identifies five methods for maintaining and governing relationships. These are role specification, planning, adjustment processes, monitoring procedures, incentive system, and means of enforcement. The six measures we used directly relate to the first three of Heide's methods: role specification, planning, and adjustment processes.

To capture the phenomena of explicitness, we used the phrase "our contract or distribution agreement precisely defines or states...." For example, "In dealing with our major supplier, our contract or distribution agreement precisely states how disagreements will be resolved." Responses were scored on a seven-point scale from "completely inaccurate description" to "completely accurate description."

Wholesalers and their suppliers also frequently use informal guidelines, which are referred to as normative contracts, to govern their relationships. Our respondents rated their extent of agreement (1 = strongly agree; 7 = strongly disagree) with several statements designed to reflect the degree to which they operate under a normative contract in

⁴We conducted all of our confirmatory factor analyses as well as the structural equation analysis on the covariance matrix

their channel relationship (see Appendix A). Note that these responses were reverse-coded to ensure that higher scores reflected a greater degree of normative contract. To capture the concept of a normative contract, we used the term *mutual understanding*. Norms imply that something is understood by the respective parties. For example, in regard to the handling of disagreements, we used the statement, "In dealing with our major supplier, we have a mutual understanding of how disagreements will be handled or resolved." As was stated previously, we view the normative contract as a "meta-norm" that provides a frame of reference for guiding relational behavior.

A confirmatory factor analysis indicated that four factors (contractual explicitness over roles [EXROLES], contractual explicitness for handling unexpected events [EXUNEX], normative contracts regarding roles [NRMROLES], and normative contracts regarding the handling of unexpected events [NRMUNEX]) adequately fit the data ($\chi^2 = 90.82$, $df = 29$, $p = 0.0$; GFI = .97; CFI = .99; TLI = .98). We conclude this in spite of the nonsignificant χ^2 test, because all of the goodness-of-fit measures exceed the .90 standard and the χ^2 test may be unreliable when used with large samples (Bagozzi and Yi 1988). The composite reliabilities for these measures (EXROLES = .94; EXUNEX = .87, NRMROLES = .97; NRMUNEX = .94), coupled with the confirmatory factor analysis results, indicate that our contractual implicitness measures are both reliable and unidimensional.

Relational behavior and long-term orientation. Three relational norms suggested by Heide and John (1992)—information exchange, flexibility, and solidarity—formed the basis for our measures of relational behavior. We believe, for the reasons discussed previously, that these three relational norms are particularly appropriate in a wholesale-distributor context.

Norms define standards for how parties should treat each other, but they are not behavior per se. Rather, norms can be expected to lead to behavior. From a managerial and operational perspective, relational behavior has more relevance because it deals with more than merely attitudes or feelings but rather with actions taken in a channel setting (i.e., behavior). Furthermore, our measurement of normative contracts captures a metarelatational norm that we can expect to influence relational behavior. Consequently we adapted Heide and John's measures of relational norms to measure relational behavior. We asked each respondent to report his or her behavior as well as his or her perceptions of the major supplier's behavior (see Appendix A). Responses were gathered on seven-point Likert-type agree-disagree scales and were coded such that higher scores reflected higher relational behavior.

Relational behavior is closely linked to the wholesale-distributor's expectation that its relationship with its major supplier will continue into the future. We measured this expectation, or long-term orientation toward that relationship, with four items by using seven-point Likert-type scales (see Appendix A).

Altogether, seven factors were posited: (1) extent of the wholesale-distributor's exchange of information with its major supplier, (2) degree to which the wholesaler perceives

the supplier as exchanging information, (3) extent to which the wholesale-distributor is flexible in its dealings with its major supplier, (4) level of supplier's flexibility seen by the wholesaler, (5) degree of solidarity the wholesale-distributor demonstrates toward the supplier, (6) extent of solidarity the supplier displays toward the wholesaler, and (7) the wholesale-distributor's long-term orientation toward its relationship with its major supplier.

A confirmatory factor analysis supported our hypothesized structure of the data ($\chi^2 = 401.96$, $df = 149$, $p = 0.0$; GFI = .93; CFI = .96; TLI = .95). The two factors termed "wholesaler keeps the supplier informed" and "supplier keeps the wholesaler informed" had composite reliabilities of .79 and .87, respectively. The composite reliabilities for "wholesaler flexibility" was .79 and for "supplier flexibility" was .90. "Wholesaler solidarity with the supplier" had a composite reliability of .83, whereas that for "supplier solidarity with the wholesaler" was .91. Finally, the composite reliability for the long-term orientation measure was .89.

These results taken together demonstrate the unidimensionality and reliability of our measures of relational behavior. We operationalized relational behavior as a composite of its six underlying dimensions: (1) wholesaler informs supplier, (2) supplier informs wholesaler, (3) wholesaler flexibility, (4) supplier flexibility, (5) wholesaler solidarity with supplier, and (6) supplier flexibility with wholesaler. A confirmatory factor analysis of these six subconstructs, as well as of the long-term orientation construct, yielded two factors: (1) a single overall relational behavior factor that was distinct from (2) long-term orientation ($\chi^2 = 736.21$, $df = 163$, $p = 0.0$; GFI = .91; CFI = .95; TLI = .94). Note that the correlation between these two constructs is .63, which is both significantly greater than zero ($p \leq .01$) and less than unity ($p \leq .01$).

Business performance. We examine the wholesale-distributor's performance according to the rational goal model that views organizations as striving for efficiency and productivity (Kumar, Stern, and Achrol 1992). Thus, we measure the business performance of the wholesale-distributor on six aspects of efficiency and productivity: sales growth, profit growth, overall profitability, liquidity, labor productivity, and cash flow (see Appendix A). Responses were framed in terms of performance relative to other firms in the industry (1 = significantly better performance than others in the industry; 7 = significantly worse performance). The items were reverse-coded so that higher scores represented higher relative business performance. Because our study focuses on wholesaler's relations with their major supplier, it would have been ideal to measure the performance that resulted from the relationship with the major supplier. Although this is ideal, it is difficult data to collect in practice because this information (other than sales) is seldom available in a small business. Consequently, if the empirical results show a statistically significant relationship between the hypothesized constructs and the wholesaler's business performance, the strength of the relationship is probably understated.

The measurement of the wholesaler's performance relative to others in the industry requires explanation. Because it was decided to conduct an industry study (i.e., eight SIC

codes reflecting eight lines of nondurable goods wholesaling and eight SIC codes reflecting eight lines of durable goods wholesaling) and because the economic performance of these lines of trade vary considerably both cross-sectionally and longitudinally (Zizzo, Lusch, and Kenderdine 1993), we were concerned with using standard financial measures of economic performance. Our concern was that perhaps most of the variation in firm performance may be due to industry structure and other environmental variables. The idea of a more subjective measure seemed feasible, because Kumar, Stern, and Achrol (1992) use subjective measures of "objective" performance dimensions (e.g., dealer contribution to sales and profits). Also in the business logistics literature, Larson (1994) uses subjective measures of total distribution costs. The use of a "relative" measure seemed feasible, because financial analysts measure a firm's performance against others in the industry and relative measures have been previously used in channels research. For example, Frazier (1983) uses relative role performance as an indicator of performance, and this view is consistent with the comparison level for alternatives found in Anderson and Narus's (1984) study, which is a facet of relationship interdependence (Thibaut and Kelley 1959). Finally, it can be expected that the performance of a merchant wholesaler depends to a large extent on the performance of its suppliers, and thus when a merchant wholesaler believes its relative performance to others in the industry is weak, it is likely to scrutinize its suppliers' performance, starting with its major supplier.

A confirmatory factor analysis indicated that a single dimension fit the performance data adequately ($\chi^2 = 41.62$, $df = 5$, $p = 0.0$; GFI = .97; CFI = .98; TLI = .96) after we dropped one item. Apparently, liquidity is not an effective indicator of a firm's efficiency and productivity. Note that the composite reliability of the business performance construct is .92. These results demonstrate the unidimensionality and reliability of this construct's measure.

Measurement validity. Convergent and discriminant validity was assessed through a confirmatory factor analysis of the construct measures developed previously (cf. Steenkamp and van Trijp 1991). In this analysis, the multidimensional constructs (i.e., extent of contract explicitness, extent of normative contract, and relational behavior) were measured by composite scores reflective of the subdimensions. For example, contractual explicitness was measured by two composite scores, one each for EXROLES and EXUNEX. Each composite score was the sum of the indicators reflecting the underlying construct dimension. The EXROLES composite represented the sum of three items reflecting this dimension of the contractual explicitness construct, for example. The unidimensional constructs (viz., wholesaler dependence on the supplier, supplier dependence on the wholesaler, long-term orientation, and wholesaler business performance) were measured by their raw indicators. The results of this analysis, based on the data presented in Appendix B, is reported in Table 1.

The model provided an acceptable fit to the data ($\chi^2 = 607.05$, $df = 272$, $p = 0.0$, GFI = .91; CFI = .95; TLI = .94). All factor loadings were statistically significant ($p \leq .05$),

and the item reliabilities for 21 of 25 loadings exceeded the arbitrary .50 standard (Bagozzi and Yi 1991). Thus, these measures display adequate within-method convergent validity. Furthermore, the composite reliability of each construct exceeded .70, with the highest being for wholesaler business performance (.92) and the lowest for extent of contractual explicitness (.77). All of the cross-construct correlations were significantly different from 1.0 ($p \geq .10$); therefore, the measures appear to possess adequate discriminant validity. Overall, then, these results demonstrate that the measures employed in this study possess adequate construct validity.

Analysis

To test the hypotheses, a structural equations model of Figure 1 was tested. An important exogenous construct in the model was bilateral dependency. Bilateral dependency occurs only when both the supplier and the wholesaler are mutually and highly dependent on each other. This implies an interaction between wholesaler dependence and supplier dependence. Accordingly, bilateral dependence was modeled as an interaction term (WXSDEP). It was tested according to the following procedure, which is based on the recommendations of Jaccard and Wan (1995), as well as on those of Jaccard, Wan, and Turrissi (1990), Aiken and West (1991), and Ping (1995):

1. One difficulty with interaction terms in structural equations modeling is multicollinearity among the interaction term components (Jaccard and Wan 1995; Jaccard, Wan, and Turrissi 1990). To mitigate the problems of multicollinearity, we mean-centered the relevant indicators.⁵ Because the interaction was composed of wholesaler's dependence on its major supplier (WDEPEND) and major supplier's dependence on the wholesaler (SDEPEND), we mean-centered each indicator of these constructs by subtracting the mean of each indicator from each observation. This resulted in nine product term indicators (i.e., three WDEPEND indicators times three SDEPEND indicators).
2. Because their Monte Carlo studies show that interactions can be effectively modeled with a subset of product term indicators, Jaccard and Wan (1995) recommend using four of, in our case, the nine possible product term indicators. The reason for using a subset is that a large number of indicators can make model estimation difficult. We selected the four product term indicators that were reflective of the WXSDEP interaction term on a quasi-random basis. It was quasi-random to ensure that the six "main effect" dependence indicators appeared in at least one of the four product term indicators we selected.
3. With a structural equations approach, measurement error in the product term indicators is a function of the error in its component indicators (Kenny and Judd 1984). For this reason, the constraints outlined in Kenny and Judd's (1984), Ping's (1994), and Jaccard and Wan's (1995) studies were added to the usual structural equations model.

⁵Although Jaccard, Wan, and Turrissi (1990) and Jaccard and Wan (1996) recommend mean-centering, values other than means can be used for centering. Smith and Sasaki (1979), for example, provide an approach for selecting centering values, which minimizes the effects of multicollinearity in models with multiplicative functions.

TABLE 1
Across-Construct Measurement Validity Assessment^a

Indicator	Loading		Reliability		Average Variance Extracted
	Unstandardized	Standardized	Item	Construct	
Wholesaler Dependence on Supplier (WDEPEND)				.873	.701
Q10AR	1.212	.679	.461		
Q10BR	1.768	.956	.915		
Q10CR	1.498	.843	.710		
Supplier Dependence on Wholesaler (SDEPEND)				.881	.713
Q10DR	1.500	.787	.619		
Q10ER	1.815	.907	.822		
Q10FR	1.608	.829	.688		
Extent of Contract Explicitness (EXPLCT)				.765	.619
EXROLES	1.472	.814	.663		
EXUNEX	1.395	.759	.577		
Extent of Normative Contract (NORMTV)				.818	.693
NRMROLES	1.102	.822	.675		
NRMUNEX	1.298	.841	.707		
Relational Behavior (RELATE)				.879	.562
WFLEX	.646	.520	.271		
SFLEX	1.245	.786	.618		
WINFO	.790	.636	.404		
SINFO	1.162	.770	.592		
WSOLID	.891	.737	.543		
SSOLID	1.347	.886	.785		
Long-Term Orientation (LTO)				.894	.679
Q7BBR	1.155	.861	.741		
Q7CCR	1.144	.745	.554		
Q7DDR	1.162	.787	.620		
Q7EER	1.311	.911	.830		
Length of Relationship (RELNTH)				.700	.700
Q2 ^b	10.012	.837	.700		
Wholesaler Performance (WPERF)				.915	.689
Q12AR	1.190	.825	.680		
Q12BR	1.346	.932	.869		
Q12CR	1.362	.933	.870		
Q12ER	.823	.633	.401		
Q12FR	1.147	.760	.577		

Φ Matrix ^c	1	2	3	4	5	6	7
1. WDEPEND							
2. SDEPEND	.255 ^c						
3. EXPLCT	.066	.214 ^c					
4. NORMTV	.151 ^c	.142 ^c	.480 ^c				
5. RELATE	.132 ^c	.156 ^c	.290 ^c	.750 ^c			
6. LTO	.250 ^c	.153 ^c	.242 ^c	.559 ^c	.650 ^c		
7. RELNTH	.194 ^c	.297 ^c	.096	.061	.077	.122 ^c	
8. WPERF	.022	.295 ^c	.152 ^c	.197 ^c	.168 ^c	.158 ^c	-.076

Goodness-of-Fit Statistics

$\chi^2 = 607.046$	GFI = .907
df = 272	CFI = .952
$p = 0.0$	TLI = .943
RMSEA = .052	NFI = .917

^aSee Appendix A for details on the scale items.

^bError term fixed at 42.962, which is the indicator variance times 1 minus an assumed reliability of .70.

^c $p \leq .05$

TABLE 2
A General Model of Interdependency, Contracting, and Relational Behavior in Marketing Channels

Independent Latent Variable ^b	Endogenous Latent Variables ^a				
	LTO (η_1)	EXPLCT (η_2)	NORMTV (η_3)	RELATE (η_4)	WPERF (η_5)
WDEPEND(ξ_1)	.162 (5.319) ^c	-.045 (-1.356)	.022 (.638)	-.028 (-.807)	-.052 (-1.728)
SDEPEND(ξ_2)	.054 (1.533)	.095 (2.518)	.032 (.811)	.023 (.590)	.229 (6.556)
WXSDEP(ξ_3) ^d	.028 (1.514)	.024 (1.257)	.082 (3.990)	.051 (2.469)	.035 (1.880)
RELNTH(ξ_4)	.006 (.952)	.004 (.513)	-.007 (-1.012)	0.0 (.019)	—
LTO(η_1)	—	.185 (3.177)	.608 (9.593)	.420 (5.688)	—
EXPLCT(η_2)	—	—	—	-.064 (-.930)	.017 (.268)
NORMTV(η_3)	—	—	—	.551 (7.337)	.190 (2.565)
RELATE(η_4)	—	—	—	—	-.027 (-.489)
Goodness-of-Fit Measures					
R-Squared	.119	.072	.348	.509	.177
χ^2	974.280				
df	383				
p	0.0				
GFI	.874				
CFI	.928				
TLI	.918				
B&B	.887				

^aEstimated correlation between Equation 2 error and Equation 3 error (ψ_{32}) is .378($t = 6.523$).

^b Φ : Correlations in bold are significant at $p \leq .05$. Those in italics are fixed.

WDEPEND (1)	(1)	(2)	(3)
SDEPEND (2)	.278		
RELNTH (3)	.212	.285	
WXSDEP (4)	0.0	0.0	.088

^cNumbers in parentheses are t-values.

^dEstimated correlations among errors in product term indicators. Correlations in bold are significant at $p \leq .05$. Those in italics are fixed.

Product Term Indicator (1)	(1)	(2)	(3)
Product Term Indicator (2)	.042		
Product Term Indicator (3)	0.0	.067	
Product Term Indicator (4)	.038	0.0	.609

4. The structural equations model was then estimated using SAS Institute's (1990) PROC CALIS. Although the chi-square goodness-of-fit measure for the overall model was not statistically significant ($\chi^2 = 974.28$, $df = 383$, $p \leq .01$), other fit indicators were close enough to the .90 benchmark to suggest that the model fit the data acceptably (GFI = .87, CFI = .93, TLI = .92). These fit indices, as well as the structural parameters, are reported in Table 2. In Table 2, we also show how much variation was explained by each of the five structural equations that constitute Figure 1.

5. In each equation, we next tested the interaction term (i.e., WXSDEP) for statistical significance by examining its t-value. Only in the equations predicting normative contracting (NORMTV) and relational behavior (RELATE) was this parameter statistically ($p \leq .05$) significant.

6. Finally, the moderating effect implied by the significant interaction terms was decomposed by the procedure described in Appendix C.

Results

Taken together, H_1 and H_2 argue that both wholesaler-distributor and supplier dependency affect the form of contracts governing their relationship. The results in Table 2 denote that explicit contracts are associated with greater supplier dependence ($\gamma_{22} = .095$, $p \leq .01$). They are, however, affected by either distributor dependence ($\gamma_{21} = -.045$, $p > .10$) or bilateral dependency ($\gamma_{23} = .024$, $p > .10$). Thus, we found support for H_{1b} and H_{2b} but none for H_{1a} .

The results in Table 2 also show that normative contracts are not influenced by higher wholesaler-distributor dependence ($\gamma_{31} = .022$, $p > .10$) or more supplier dependence ($\gamma_{32} = .032$, $p > .10$). They are, however, affected by greater bilateral dependence ($\gamma_{33} = .082$, $p \leq .01$). Using the procedure outlined in Appendix C, we decomposed the effects of this

TABLE 3
Decomposing the Effects of Bilateral
Dependence on Normative Contracting
and Relational Behavior

	Number of Standard Deviations for SDEPEND*	Parameter Estimates for WDEPEND	
		NORMTV	RELATE
WDEPEND at:			
High SDEPEND	1	.158	.057
Moderate SDEPEND	0	.022	-.028
Low SDEPEND	-1	-.113	-.112

*SDEPEND standard deviation = 1.644.

interaction (see Table 3). In Table 3, we show that, as supplier dependence increases from relatively low levels to high levels, wholesale-distributor dependence changes from having a negative effect (-.113) to a positive impact (.158) on the extent of normative contracting. In other words, as the supplier and wholesale-distributor become mutually interdependent, they use more normative contracts to govern their relationships. Conversely, the decomposed coefficients imply that if interdependence is asymmetric, normative contracting is less likely to be used to govern the relationship. Thus, these results fail to support H_{1c} and H_{1d} ; however, they do provide evidence for H_{2a} .

We did not find that high bilateral dependence increases the long-term orientation of the wholesale-distributor, as is hypothesized in H_{3a} ($\gamma_{13} = .028, p > .10$). On the other hand, we found, as is hypothesized in H_{3b} , that more dependent wholesale-distributors have a longer-term orientation toward their relationship with their major supplier ($\gamma_{11} = .162, p < .01$). Contrary to H_{3c} , we found that the wholesale-distributor's long-term orientation was not significantly related to the supplier's dependence ($\gamma_{12} = .054, p > .10$). Therefore, we found support for H_{3b} but had to reject H_{3a} and H_{3c} .

We did find, as is hypothesized in H_{4a} , that the greater the extent of the normative contract governing the relationship between a supplier and wholesale-distributor, the greater the relational behavior ($\beta_{43} = .551, p \leq .01$). Furthermore, as is hypothesized in H_{4b} we found no strong and significant relationship between the extent of explicit contract governing the relationship between a supplier and wholesale-distributor and relational behavior ($\beta_{42} = -.064, p > .10$).

Unilateral dependence was shown to have no impact on relational behavior; therefore, neither H_{5a} ($\gamma_{41} = -.028, p > .10$) nor H_{5b} ($\gamma_{42} = .023, p > .10$) is supported. However, as is hypothesized in H_6 , high bilateral dependence increases relational behavior ($\gamma_{43} = .051, p < .05$). In Table 3, we illustrate that, with a low level of supplier dependence, the impact of wholesale-distributor dependence on relational behavior is negative (-.112); however, with a high level of supplier dependence, it becomes positive (.057). Thus, as both firms become more dependent on each other, the degree of relational behavior between them increases. This result is consistent with H_6 .

The length of the relationship does not influence relational behavior ($\gamma_{44} = 0.0, p > .10$), contrary to H_7 . However, long-term orientation does have a positive effect on relational behavior ($\beta_{41} = .420, p \leq .01$) as is predicted by H_8 . In H_9 , we suggest that a longer relationship should foster a longer-term orientation by the wholesale-distributor; however, this hypothesis is not supported ($\gamma_{14} = .006, p > .10$).

We also argue in H_{10a} and H_{11a} that wholesale-distributors with a long-term orientation would be more likely to rely on both explicit and normative contracts. We found a significant positive relationship between long-term orientation and explicit contracts ($\beta_{21} = .185, p \leq .01$). As was anticipated, we also uncovered a positive relationship between long-term orientation and normative contracts ($\beta_{31} = .608, p \leq .01$). We predicted that a wholesale-distributor that has a longer relationship with their supplier will be more likely to rely on explicit contracts (H_{10b}) and also more likely to rely on normative contracts (H_{11b}). Neither of these hypotheses is supported ($\gamma_{24} = .004, p > .10$; $\gamma_{34} = -.007, p > .10$, respectively).

In H_{12a} , we argue that dependency structure should be inversely related to wholesaler performance. Consistent with our prediction in H_{12a} , we found that the wholesale-distributor's dependence was negatively related to its performance, but it was not statistically significant ($\gamma_{51} = -.052$). In addition, we found support for the prediction (H_{12b}) that the more the supplier is dependent on the wholesaler, the higher is the performance of the wholesaler ($\gamma_{52} = .229, p \leq .01$). We found that the gamma coefficient linking high bilateral dependence and wholesaler performance was in the predicted direction but was not statistically significant ($\gamma_{53} = .035$).

In H_{13} , it is predicted that relational behavior is positively related to wholesaler-distributor performance; however, we found no support for this prediction ($\beta_{54} = -.027, p > .10$).

Finally, in H_{14} , we predict the effect of contract form on wholesaler-distributor performance. Both explicit and normative contracts were positively linked to wholesaler-distributor performance, as is predicted, but only the effect of normative contracts was significant ($\beta_{52} = .017, p > .10$; $\beta_{53} = .190, p \leq .05$, respectively). Therefore, we reject H_{14a} but not H_{14b} .

Discussion

Managerial Directions

The central theme of this article is that the performance of marketing activities by marketing channel members can be coordinated by two key types of contracts—normative and explicit contracts. The results of our empirical study reinforce this theme.

The structure of dependency in a marketing channel does have an impact on contracting. We found that high bilateral dependency between a wholesale-distributor and its major supplier leads to more reliance on normative contracts. Significantly, these normative contracts lead to improved wholesaler performance. This suggests that

wholesale-distributors and suppliers form relationships in which they both have a high need for each other.

When a wholesaler is dependent on its major supplier, the wholesaler develops a long-term orientation. This long-term orientation leads to more contracting, both explicit and normative, and more normative contracting leads to higher wholesaler performance. Thus, wholesalers can work effectively with more powerful suppliers if they develop normative contracts, as well as explicit contracts.

On the other hand, when a supplier is dependent on a wholesaler, more explicit contracts are present and the wholesaler has a higher performance level. Thus, as we expect, when a wholesaler aligns itself with a weaker supplier, the wholesaler's performance rises. Long-term orientation was shown to have a central and important role in contracting and relational behavior. Long-term orientation, as was hypothesized, leads to more explicit and normative contracting, as well as to more relational behavior. On the other hand, we found no support for the importance of merely long relationships. As relationships endure, there is no automatic rise in long-term orientation, explicit and/or normative contracting, and relational behavior. This suggests that attitude and perspective toward the long term is much more important than merely long-standing relationships.

We believe these findings, with strong managerial implications, are important because the wholesaling industry is faced with increasing pressures and challenges that threaten its survival (Arthur Andersen 1992). The smaller wholesalers in our economy may find it advantageous to team up with smaller manufacturers, many of which are in high-tech industries, and are seeking ways to get to market. Wholesalers that can help distribute these firms' products will be in a powerful position and, as our model and results suggest, will economically benefit from it. For the smaller wholesaler, this may be an appealing strategy. However, our results also indicate that under the proper circumstances wholesalers also can benefit from working with more powerful suppliers and with suppliers with whom they share a high level of bilateral dependency. In short, small wholesalers have many options for developing profitable working relationships with suppliers.

Research Directions

Building on the recent work of Buchanan (1992), Ganesan (1994), Gundlach and Cadotte (1994), and Heide (1994), our research underscores the importance of studying bilateral dependence, especially as it affects perceptions of relational exchange and the use of normative contracts. Indeed, a critical area of further research is to determine the situations in which bilateral dependence is relatively more productive to the channel and/or when unilateral dependence is more so.

Our study also sheds light on the respective roles of long-term orientation versus relationship length. Long-term orientation is much more important because it significantly influences contracting and relational behavior. On the other hand, the mere existence of a long relationship does not have any significant effect on contracting and relational behavior, nor does it influence long-term orientation. This result is consistent with those of many

studies that have found the impact of relationship tenure (i.e., the length of the channel relationship) on a number of important channels constructs to be minimal (Ganesan 1994; Heide and Miner 1992; Kumar, Scheer, and Steenkamp 1995a). Together, these findings call into question the utility of relationship length for explaining channel phenomena.

Shugan (1985) shows analytically that as channel firms develop implicit understandings (i.e., normative contracts) to guide their behavior, both the channel and individual channel members achieve higher levels of performance. Our results affirm Shugan's (1985) analytical findings. Just as our empirical work benefits substantially from Shugan's (1985) analytical modeling research, we echo Hauser's (1985) belief that the literature stands much to gain by cross-pollinating empirical research with analytical modeling research.

Further research can overcome some of the limitations of this study. We measured the supplier's view of the relationship as well as its dependence from the perspective of the distributor. We did this because distributors' perceptions of supplier behavior factor prominently in their view of the entire distributor-supplier relationship. Gathering similar information from suppliers would yield bilateral perceptions of channel relationships. Perceptions from both sides of the channel dyad might provide a different view into the workings of channel relationships than that provided by perceptions from one side alone. Such a study would require that performance data on both sides of the channel dyad be collected.

Several other important constructs might be built into our model. For example, commitment, trust, opportunism, and bureaucratic structure (i.e., formalization, participation, and specialization), to name a few, have been shown in the literature to be linked to relational norms (Dahlstrom, McNeilly, and Speh 1996; Morgan and Hunt 1994). Understanding how they are connected to the extent of explicit and normative contracting would provide additional insights into governing channel relationships. Additionally, some constructs could be incorporated into the model as potential moderators. For example, with transaction cost analysis, the effect of relational behaviors and contract form on performance could be argued to be moderated by environmental uncertainty. Although normative contracts and relational behaviors enable parties to adjust to changing situations so that performance is improved, adjustments may not be necessary if the environment is stable. Explicit contracts may ensure high performance when the environment is certain but may not work when the environment changes and the contract no longer fits.

Contract violation is another area of potential study. What happens when an explicit or normative contract is violated? Does procedural and interactional justice have an impact on how contract violations are perceived and on the actions taken?

Additional research also might be devoted to determining if these results can be generalized to other channel contexts. For example, the effects of explicit and normative contracts in franchise channels, as well as in corporate channels, might be examined. Furthermore, research into international channel settings might reveal different results.

APPENDIX B Correlations, Means, and Standard Deviations

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
1 Q10AR	1.000																									
2 Q10BR	.647	1.000																								
3 Q10CR	.669	.806	1.000																							
4 Q10DR	.180	.208	.178	1.000																						
5 Q10ER	.123	.221	.212	.717	1.000																					
6 Q10FR	.127	.186	.211	.646	.752	1.000																				
7 EXROLES	.166	.097	.063	.190	.163	.169	1.000																			
8 EXUNEX	.071	-.006	-.061	.126	.100	.120	.619	1.000																		
9 NRMHROLES	.170	.115	.102	.117	.065	.101	.333	.358	1.000																	
10 NRMUNEX	.128	.123	.059	.152	.108	.122	.313	.306	.698	1.000																
11 WFLX	.137	.087	.088	-.053	-.036	-.021	-.007	.073	.274	.306	1.000															
12 SRLEX	.097	.038	-.010	.110	.057	.107	.195	.246	.500	.508	.468	1.000														
13 WINFO	.144	.122	.106	.129	.145	.208	.131	.061	.341	.291	.483	.486	1.000													
14 BRNFO	.140	.156	.112	.143	.090	.113	.233	.246	.467	.524	.325	.612	.468	1.000												
15 WSOLID	.213	.151	.162	.145	.142	.140	.147	.062	.420	.411	.500	.512	.500	.512	1.000											
16 SSOLID	.117	.067	.045	.142	.088	.133	.211	.197	.594	.590	.409	.470	.360	.467	.371	1.000										
17 Q7BBER	.181	.190	.144	.092	.078	.137	.171	.132	.444	.390	.305	.470	.360	.467	.371	.536	1.000									
18 Q7CCR	.248	.196	.166	.120	.108	.116	.104	.142	.366	.403	.233	.363	.233	.362	.309	.403	.864	1.000								
19 Q7DDR	.176	.184	.125	.084	.096	.135	.155	.140	.360	.349	.257	.430	.306	.404	.368	.480	.864	.828	1.000							
20 Q7EER	.232	.232	.155	.101	.115	.164	.219	.150	.409	.418	.251	.482	.330	.465	.390	.532	.791	.721	.721	1.000						
21 Q2	.117	.157	.133	.215	.230	.181	.065	.082	.063	.033	-.026	.033	.042	.061	.072	.062	.048	.059	.095	.119	1.000					
22 Q12AR	-.024	.020	.048	.213	.271	.331	.110	.117	.089	.149	.077	.096	.099	.118	.074	.062	.080	.120	.081	.083	-.060	1.000				
23 Q12BR	-.053	.009	.033	.159	.218	.292	.123	.123	.096	.188	.068	.111	.104	.158	.083	.130	.109	.121	.133	.095	-.075	.786	1.000			
24 Q12CR	-.031	.018	.055	.160	.238	.294	.086	.105	.096	.177	.061	.108	.108	.150	.083	.127	.146	.129	.163	.136	-.063	.752	.874	1.000		
25 Q12ER	.047	.055	.050	.170	.181	.202	.062	.117	.187	.197	.121	.107	.186	.123	.118	.127	.140	.170	.093	.149	-.025	.510	.571	.587	1.000	
26 Q12FR	-.068	.001	.040	.152	.198	.209	.082	.086	.170	.211	.079	.136	.130	.130	.101	.145	.118	.096	.065	.092	-.020	.828	.884	.720	.577	1.000
MEAN	4.937	4.685	4.952	3.646	3.765	4.243	4.658	3.469	5.465	4.700	5.648	4.949	5.520	4.942	5.457	6.041	5.954	5.822	5.572	5.698	12.578	4.813	4.882	4.637	4.815	4.528
STD	1.781	1.847	1.774	1.905	2.004	1.938	1.807	1.839	1.340	1.540	1.242	1.579	1.238	1.511	1.211	1.521	1.343	1.538	1.468	1.441	11.979	1.445	1.445	1.461	1.301	1.511
N	460	460	460	460	460	460	460	460	460	460	460	460	460	460	460	460	460	460	460	460	460	460	460	460	460	460

APPENDIX A

Measures

Dependency. $\chi^2 = 15.937$; GFI = .992; CFI = .998; TLI = .996; NFI = .991.

1. *Wholesaler's Dependence on Its Major Supplier* (WDEPEND) ($\rho = .872$)

Q10AR—We are dependent on our major supplier.^{a,b}

Q10BR—Our major supplier would be difficult to replace.^c

Q10CR—Our major supplier would be costly to lose.^c

2. *Major Supplier's Dependence on the Wholesaler* (SDEPEND) ($\rho = .878$)

Q10DR—Our supplier is dependent on us.^{a,b}

Q10ER—Our major supplier would find it difficult to replace us.^c

Q10FR—Our major supplier would find it costly to lose us.^c

3. *Length of Relationship* (RELNTH)

Q2—How long have you been doing business with your major supplier? (Number of years *12 + Number of months)/12

Contracting. $\chi^2 = 90.816$; GFI = .966; CFI = .988; TLI = .982; NFI = .983.

4. *Explicit Contracting over Roles* (EXROLES) ($\rho = .943$)

Q3A—In dealing with our major supplier, our contract or distribution agreement precisely defines the role of each party.

Q3B—In dealing with our major supplier, our contract or distribution agreement precisely defines the responsibilities of each party.

Q3C—In dealing with our major supplier, our contract or distribution agreement precisely states how each party is to perform.

5. *Explicit Contracting for Handling Unexpected Events* (EXUNEX) ($\rho = .870$)

Q3D—In dealing with our major supplier, our contract or distribution agreement precisely states the legal remedies for failure to perform.*

Q3E—In dealing with our major supplier, our contract or distribution agreement precisely states what will happen in the case of events occurring that were not planned.

Q3F—In dealing with our major supplier, our contract or distribution agreement precisely states how disagreements will be resolved.

6. *Normative Contracting Over Roles* (NRMROLES) ($\rho = .965$)

Q9AR—In dealing with our major supplier, we have a mutual understanding of the role of each party.

Q9BR—In dealing with our major supplier, we have a mutual understanding of the responsibilities of each party.

Q9CR—In dealing with our major supplier, we have a mutual understanding of how each party is to perform.

7. *Normative Contracting for Handling Unexpected Events* (NRMUNEX) ($\rho = .938$)

Q9DR—In dealing with our major supplier, we have a mutual understanding of remedies for failure to perform.*

Q9ER—In dealing with our major supplier, we have a mutual understanding of how disagreements will be handled or resolved.

Q9FR—In dealing with our major supplier, we have a mutual understanding of what will happen in the case of events occurring that were not planned.

Relational behavior. $\chi^2 = 401.957$; GFI = .926; CFI = .963; TLI = .953; NFI = .943.

8. *Wholesaler Keeps Supplier Informed* (WINFO) ($\rho = .792$)

Q7GR—We provide any information that might help our major supplier.^{d,e,f}

Q7HR—We provide information to our major supplier frequently and informally, and not only according to a prespecified agreement.^{d,e}

Q7IR—We will provide proprietary information to our major supplier if it can help.^{d,e,*}

Q7JR—We keep our major supplier informed about events or changes that may affect them.^{d,e}

9. *Supplier Keeps Wholesaler Informed* (SINFO) ($\rho = .870$)

Q7KR—Our major supplier will provide us any information that might be helpful.^{d,e,f,*}

Q7LR—Our major supplier provides us information frequently and informally, and not only according to a prespecified agreement.^{d,e}

Q7MR—Our major supplier will provide us with proprietary information if it can help.^{d,e}

Q7NR—Our major supplier keeps us informed about events or changes that may affect us.^{d,e}

10. *Wholesaler Flexibility* (WFLEX) ($\rho = .792$)

Q7AR—We are flexible when dealing with our major supplier.^a

Q7BR—We expect to make adjustments in dealing with our major supplier to cope with changing circumstances.^{d,e}

Q7CR—When some unexpected situation arises, we would rather work out a new deal with our major supplier than hold them to the original terms.^{d,e,*}

11. *Supplier Flexibility* (SFLEX) ($\rho = .897$)

Q7DR—Our major supplier is flexible in dealing with us.^a

Q7ER—Our major supplier will make adjustments in dealing with us to cope with changing circumstances.^{d,e}

Q7FR—When some unexpected situation arises, our major supplier would rather work out a new deal with us than hold us to the original terms.^{d,e,*}

12. *Wholesaler Solidarity With Supplier* (WSOLID) ($\rho = .829$)

Q7OR—When our major supplier incurs problems, we try to help.

Q7PR—We share in the problems that arise in the course of dealing with our major supplier.^d

Q7QR—We are committed to improvements that may benefit relationships with our major supplier as a whole and not only ourselves.^d

Q7RR—We do not mind owing our major supplier favors.^{d,*}

13. *Supplier Solidarity With Wholesaler* (SSOLID) ($\rho = .914$)

Q7SR—When we incur problems, our major supplier tries to help.

- Q7TR—Our major supplier shares in the problems that arise in the course of our dealing.^d
 Q7UR—Our major supplier is committed to improvements that may benefit our relationship as a whole and not only themselves.^d
 Q7VR—Our major supplier does not mind owing us favors.^{d,*}

14. *Expectation of Relationship Continuity* (LTO) ($\rho = .889$)
 Q7BBR—We expect our relationship with our major supplier to continue a long time.^{a,e}
 Q7CCR—Renewal of the relationship with our major supplier is virtually automatic.^{a,e}
 Q7DDR—Our relationship with our major supplier is enduring.

Q7EER—Our relationship with our major supplier is a long-term alliance.

Wholesaler performance. $\chi^2 = 41.615$; GFI = .969; CFI = .982; TLI = .964; NFI = .980.

15. *Wholesaler Business Performance* (WPERF) ($\rho = .916$). In regard to other distributors or agents/brokers in our industry, how would you rate your firm's performance over the last year in terms of:
 Q12AR—Sales growth.
 Q12BR—Profit growth.
 Q12CR—Overall profitability.
 Q12DR—Liquidity*
 Q12ER—Labor productivity
 Q12FR—Cash Flow

*Dropped from further analysis.

^aAdapted from Noordewier, John, and Nevin's (1990) study.

^bAdapted from Ganesan's (1994) study.

^cAdapted from Kumar, Scheer, and Steenkamp's (1995b) study.

^dAdapted from Heide and John's (1992) study.

^eAdapted from Heide and Miner's (1992) study.

^fAdapted from Kaufmann and Dant's (1992) study.

Appendix C

Decomposing the Interaction Effects

In Equation A1, b_3 represents the effect of the interaction between X_1 and X_2 on Y (Sharma, Durand, and Gur-Arie 1981):

$$(A1) \quad Y = b_0 + b_1X_1 + b_2X_2 + b_3X_1X_2 + e.$$

Of particular interest in this study are the direction and magnitude of the interaction effects, which are determined by decomposing any statistically significant b_3 terms (Jaccard, Wan, and Turrissi 1990). To find the value of b_1 at a particu-

lar value of X_2 , Equation A1 is differentiated with respect to X_1 to yield Equation A2:

$$(A2) \quad b_1 \text{ at } X_2 = b_1 + b_3X_2.$$

Because the X variables are mean-centered, a value of zero for X_2 represents the mean or moderate level of X_2 . Values of +1 times its standard deviation and -1 times its standard deviation then represent high and low levels of X_2 , respectively. These values, along with the parameter estimates for b_1 and b_3 , can then be substituted into Equation A2 to derive estimates of b_1 at high, moderate, and low levels of X_2 .

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Determinants of Distribution Intensity

Within many categories of consumer products, manufacturers differ markedly in how intensively they distribute their brands among retailers. The authors enhance understanding of why such differences in distribution intensity occur. Literature in the marketing and economics disciplines on brand and channel management, agency theory, and credible commitments, combined with extensive field interviews, provides the foundation for a conceptual framework that centers on proposed moderator effects. Data collected from manufacturers in the consumer electronics industry are used to test the conceptual framework. Credible commitments by retailers in the form of contractual agreements and investments are shown to moderate the relationships of manufacturer brand strategy and channel practices with distribution intensity.

Within many categories of consumer products, manufacturers seek intensive distribution for their brands. That is, the objective is to distribute brands through every available retailer in each trade area. Distribution success for such brands is judged, in part, by their percentage of all-commodity volume, which reflects the percentage of sales volume in the product category (e.g., coffee, peanut butter) accounted for by stores that carry the brand (e.g., Folgers, Skippy). A high level of distribution intensity is sought for a majority of consumer nondurable goods.

In many other categories of consumer products, however, desired distribution patterns are not as straightforward. By design, some brands are distributed intensively, whereas others in the same product category are distributed selectively or exclusively. Examples of product categories in which distribution intensity varies widely across brands are bicycles, cameras, golf equipment, hair care products, pet food, stereo speakers, ski equipment, and watches. Differences in distribution intensity across brands are high within many consumer durable goods categories.

Distribution intensity has been commonly defined as the number of intermediaries used by a manufacturer within its trade areas (cf. Bonoma and Kosnik 1990; Corey, Cespedes, and Rangan 1989; Stern, El-Ansary, and Coughlan 1996). Ideal distribution intensity would make a brand available widely enough to satisfy, but not exceed, target customers' needs, because oversaturation increases marketing costs without providing benefits (McCarthy and Perreault 1984). The use of too few intermediaries can limit a brand's level

of exposure in the marketplace. However, using too many intermediaries can be detrimental to the brand's image and its competitive position. Accordingly, Stern, El-Ansary, and Coughlan (1996, p. 340) state, "One of the key elements of channel management is deciding how many sales outlets should be established in a given geographic area."

Despite its importance, distribution intensity has received little attention in academic research. Within marketing, the primary theoretical thrust links product class to distribution intensity (cf. Aspinwall 1958; Copeland 1923; Miracle 1965). On the basis of their underlying characteristics, convenience goods are associated with intensive distribution, shopping goods are proposed to require selective distribution, and specialty goods are related to exclusive distribution. The product class framework appears to have strong face validity, but does not address the question of why brands *within* many categories of consumer products differ in distribution intensity.

"Exclusivity of distribution" in relation to intensive distribution has been examined in the economics literature. In opposition to traditional economic theory, many economists now argue that exclusive distribution can have procompetitive effects when intermediary support is critical to the success of the brand (cf. Lafferty, Lande, and Kirkwood 1984; Mathewson and Winter 1984; Rey and Tirole 1986; Winter 1993). Keeping intrabrand competition low may enhance intermediaries' support of the brands they carry, which leads to a possible increase in interbrand competition. The economics literature thus provides insight as to why some brands in a product category may be less intensively distributed than others. However, the focus has been on the relationship between exclusive distribution and consumer welfare, not on building or testing theory to explain differences in distribution intensity across brands.

In preparation for our study, we conducted interviews with manufacturers and retailers in several industries. These interviews indicated that managers in manufacturing firms face a highly complex and difficult decision on distribution intensity that involves several trade-offs. Low distri-

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bution intensity may enhance the image of the brand and promote retailer support but may entail limited market coverage and the potential for lost sales opportunities. High distribution intensity may promote sales in the short run, but long-term results are less clear (Stern, El-Ansary, and Coughlan 1996).

The purpose of our article is to promote understanding of why brands within many categories of consumer products differ in distribution intensity. Building on prior definitions in the channels literature, we define *distribution intensity* as the extent to which a manufacturer relies on numerous retailers in each trade area to carry its brand (cf. Bagozzi 1986; Corey, Cespedes, and Rangan 1989). Distribution intensity is relatively low when manufacturers are highly selective in their choice of associated retailers and put strict limits on the number of retailers allowed to carry their brands in each trade area.

On the basis of foundations in the economics and marketing disciplines and on our field interviews, our conceptual framework centers on how credible commitments by retailers moderate other variables' relationships with distribution intensity. Credible commitments or pledges are specific actions undertaken by channel members that demonstrate good faith and bind them to relationships with other channel members, at least to some degree (Anderson and Weitz 1992; Williamson 1985). The signaling associated with such retailer actions is expected to influence managers in manufacturing organizations as they decide on appropriate levels of distribution intensity in light of their brand strategy and channel practices. We test our conceptual framework with data collected from manufacturers of stereo speakers in the consumer electronics industry.

Our study is the first in which distribution intensity is the focal construct. The combination of our integrative conceptual framework and empirical results improves our understanding of distribution intensity and its determinants. The moderator effects we identify are especially illuminating. Such knowledge is important as we strive to develop more comprehensive theories of channel structure, in which distribution intensity plays a pivotal role (Rosenbloom 1995; Stern, El-Ansary, and Coughlan 1996). Our findings provide a foundation for exploration of the distribution intensity construct in additional research.

Conceptual Framework

Development

Our initial conceptual framework was based on a thorough review of the literature. Research in the marketing and economics fields on brand and channel management and on agency theory helped identify the role of manufacturer brand strategy and manufacturer channel practices in shaping distribution intensity. The identification of probable moderating effects was based on the emerging literature on credible commitments (cf. Anderson and Weitz 1992; Williamson 1985). We conducted personal interviews with 4 manufacturers and 15 retailers in the consumer electronics, pet food, and hair care industries to refine the basic rationale of the conceptual framework.

Further refinements were based on two additional steps. First, a series of telephone interviews were conducted with 25 manufacturers of bicycles, cameras, electronics, golf equipment, ski equipment, and watches. We asked them about distribution intensity and the reasons for their distribution patterns. Second, 6 more retailers in the consumer electronics industry were personally interviewed.

Shown in Figure 1 is the conceptual framework that resulted from the refinement process. Two components are seen to have significant main effects on distribution intensity: *manufacturer brand strategy*, including brand positioning on quality and target focus, and *manufacturer channel practices*, including manufacturer coordination efforts and support programs. In addition, a *retailer requirements* component, consisting of contractual restrictiveness and retailer investments, is seen to moderate relationships between the other two components and distribution intensity. Certain manufacturers require associated retailers to sign restrictive contracts and make relatively heavy investments in support of the brand. Such actions represent credible commitments on the part of the retailers (Anderson and Weitz 1992; Rusbult 1980). Finally, a set of control variables was found to be necessary in the conceptual framework.

Research Hypotheses

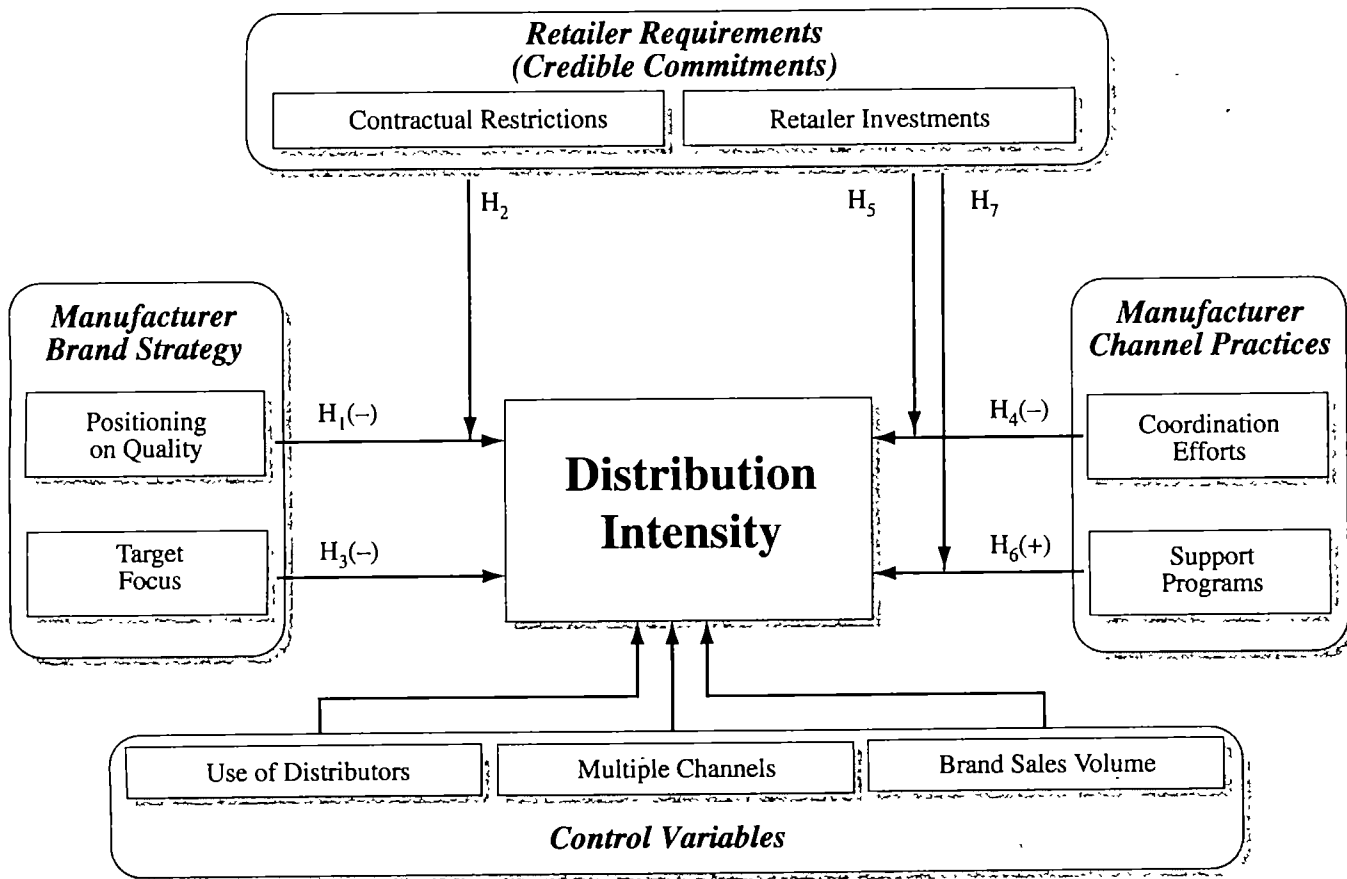
Manufacturer brand strategy. A brand's *positioning on quality* reflects the extent to which a manufacturer attempts to convey to consumers that the brand has superior ability to perform its functions (Kotler and Armstrong 1993; Zeithaml 1988). Manufacturers of brands positioned near the low end of the quality continuum are expected to rely on numerous retailers in each trade area to promote convenience and competitive pricing for their customers. In contrast, manufacturers positioning their brands as high quality are likely to be more diligent in screening prospective retailers, because retailer image or reputation can influence the image of brands within the store (Lusch and Dunne 1990; Pegram 1965). Retailers with strong store images and a reputation for excellent operations are preferred. Such manufacturers are less likely to align with retailers whose internal operations and ability to sell and service high-end brands are uncertain (Jacoby and Mazurski 1984). Relatively few retailers are likely to surpass the standards of performance established by manufacturers of high-end brands.

H₁: The higher a brand is positioned on quality, the lower is its level of distribution intensity.

Contractual restrictiveness reflects the extent to which a formal agreement between a manufacturer and retailer reduces retailer freedom of managerial choice. Standards of conduct relating to brand sales goals, retailer behaviors, and relationship termination can be imposed. Some manufacturers require associated retailers to accept highly restrictive contracts, whereas other manufacturers use lenient contracts or none at all.

Voluntarily constraining activities through contract terms is a form of credible commitment from the retailer to the manufacturer (Williamson 1983, 1985). Anderson and Weitz (1992) define a credible commitment or pledge as a specific action undertaken by a channel member that

FIGURE 1
Determinants of Distribution Intensity: Conceptual Framework



demonstrates good faith and binds it to a relationship with another channel member. They go on to state that "contract terms both commit the channel member and provide a convincing signal to the other party" (p. 21). Retailers agreeing to restrictive contracts self-select themselves as channel members, because the more opportunistically inclined ones are likely to avoid binding themselves in this fashion (Rubin 1990).

Therefore, from the manufacturer's point of view, when restrictive contracts are required, uncertainty about retailers' internal operations may be reduced (Klein 1980; Mathewson and Winter 1985; Rubin 1990). Manufacturers would have greater assurance that associated retailers will undertake behaviors that enhance the desired image of the brand. As a result, manufacturers that position their brands as high quality may be able to relax limits, at least to some degree, on the number of retailers in their channel systems. Market coverage could be enhanced with little or no sacrifice in brand image.

H_2 : The inverse relationship between brand positioning on quality and distribution intensity is weaker when contractual restrictiveness is higher.

Target focus is the extent to which a manufacturer concentrates on a narrow spectrum of the general market. A manufacturer pursuing a broad cross-section of the market

for its brand must reach diverse groups of consumers that differ in preferences and shopping patterns. An intensive distribution approach is likely necessary in such cases to ensure adequate availability of the brand (Levy and Weitz 1992). In contrast, a manufacturer targeting a market niche for its brand deals with a relatively small and homogeneous group of consumers, with at least some similarity in shopping patterns (Dickson and Ginter 1987). A more selective distribution approach may be appropriate in serving such a customer group, though pressures to reduce opportunity costs associated with lost sales may lead such manufacturers to expand the number of retailers in each trade area to some degree (Stern, El-Ansary, and Coughlan 1996).

H_3 : The higher a manufacturer's target focus for a brand, the lower is its level of distribution intensity.

Brands positioned high on quality may exhibit a tendency to be positively associated with the target focus construct. However, the correlation is unlikely to be that high. There are many examples of manufacturers that position their brands as reasonably high quality and still target a broad spectrum of consumers. Some of the "differentiators" that Porter (1980) discusses appear to fit in that category. For example, in the stereo speaker industry, Bose and JBL in home speakers and Infinity in car speakers position their brands as high quality and pursue a wide variety of market

segments. Manufacturers of brands positioned lower on quality may focus on a narrow segment of the market for a variety of reasons, such as low manufacturing capacity or poor competitive position.

Manufacturer channel practices. Problems in the functioning of channel relationships are due at least partly to differences in firms' objectives and risk preferences and the information asymmetries between firms (Levinthal 1988). Hence, manufacturers may devise and employ mechanisms designed to increase the likelihood that associated channel members' actions are consistent with manufacturer objectives and policies (Bergen, Dutta, and Walker 1992; Eisenhardt 1989). Manufacturer coordination efforts and support programs are two such mechanisms, though each has different proposed effects on distribution intensity.

Coordination efforts reflect the extent to which manufacturer personnel attempt to align and influence retailer decisions and activities (cf. Bucklin 1973; Skinner and Guiltinan 1985). Certain manufacturers devote considerable resources to coordinating their channel relationships with retailers, whereas others show little interest in doing so, partly because of the costs involved (Stern, El-Ansary, and Coughlan 1996).

Manufacturers needing to closely coordinate their channel relationships are expected to set limits on the number of retailers used in each trade area (Rosenbloom 1995). Coordination efforts can be hampered by a large and diverse array of retailers (Cespedes 1988; Klein and Murphy 1988). As the number of retailers in a channel system increases, so do opportunities for transshipment, variation in maintenance and repair services, different stocking levels, different pricing strategies, and inconsistent sales efforts. The likelihood of such difficulties occurring is reduced when distribution intensity is kept reasonably low (Cespedes 1988; Mason and Ezell 1993). Furthermore, close coordination requires retailer receptivity and support (Rosenbloom 1995; Stern, El-Ansary, and Coughlan 1996). Manufacturers devoted to coordinating their channel relationships, therefore, are likely to try to keep levels of intrabrand competition low. Such an approach protects retailer sales volumes and margins to some degree and reduces the likelihood of significant free-riding activities, thus giving associated retailers some incentive to be receptive to manufacturer coordination efforts (Jordan and Jaffee 1987; Scherer and Ross 1990).

H₄: The higher a manufacturer's coordination efforts, the lower is a brand's level of distribution intensity.

Retailer investments are expenditures in resources the retailer must make to sell the brand effectively (Corey, Cespedes, and Rangan 1989). Such investments are brand-specific and driven by manufacturer requirements. They include investments in inventory as well as time and money spent on training sales personnel about the brand. Only a small portion, if any, of these investments are specialized in nature (Williamson 1985) with little salvage value. Should the relationship with the manufacturer terminate, the retailer would be able to sell the remaining inventory, and salesperson expertise gained through training could be used in selling competitive brands against the focal brand.

Retailer investments in the brand are another form of credible commitment or pledge to the manufacturer (Rusbult 1980). They signal the retailer's good faith and its willingness to do what is required, at least in part, to sell and service the brand properly. Retailers agreeing to make heavy investments in the brand self-select themselves as channel members (Rubin 1990). Moreover, retailers are likely to provide better support for brands in which they have made sizable investments (cf. Dwyer, Schurr, and Oh 1987; Frazier 1983). Therefore, when required investments are high, the manufacturer is likely to have greater confidence that associated retailers are receptive and responsive to its coordination efforts. As a result, the manufacturer may be able to increase the number of retailers used in each trade area to some degree, thus enhancing the market coverage of the brand without reducing the effectiveness of its coordination efforts.

H₅: The inverse relationship between manufacturer coordination efforts and distribution intensity is weaker when retailer investments are higher.

Support programs are means of assistance the manufacturer makes available to associated retailers (e.g., accounting support, dealer hot line). Manufacturers vary in their reliance on support programs (Hunt and Nevin 1974; Lusch 1976). Manufacturers that provide several support programs in the channel are trying to stimulate interest in their brands among retailers and assist associated retailers in their operations. Retailers clearly can be motivated by manufacturer assistance (Gaski and Nevin 1985; Hunt and Nevin 1974; Shipley 1984). When support programs are available, the retailer's job may be made easier. Problems associated with carrying, selling, and servicing the brand may be reduced, which leads to lowered retailer cost and risk levels. As a result, when many support programs are offered by a manufacturer, retailers may be encouraged to join and remain in its channel system. Limiting this effect is the fact that the costs of providing support for additional retailers in the channel system outweigh their marginal contribution at some threshold level.

H₆: The higher the number of manufacturer support programs, the higher is a brand's level of distribution intensity.

The strength of the positive relationship between manufacturer support programs and distribution intensity is expected to increase when retailer investments are high. When support programs are offered in conjunction with retailer investments, both the manufacturer and the retailer are sending signals of their desire to make their channel relationship work. In essence, an exchange of pledges is taking place. As Anderson and Weitz (1992, p. 21) state, "Observing the other party's pledges causes a channel member to be more confident in the other party's commitment to the relationship." Therefore, when retailer investments are high, manufacturer support programs may be particularly successful in attracting and retaining retailers in the manufacturer's channel system. In contrast, when retailer investments are low, manufacturer support programs may be of less relevance and importance to retailers and therefore have less impact on distribution intensity.

H₇: The positive relationship between the number of manufacturer support programs and distribution intensity is stronger when retailer investments are higher

Control variables. Field interviews identified three constructs as control variables. First, manufacturers that make *use of distributors* are expected to have higher levels of distribution intensity than ones that use integrated channels to reach retailers. Distributors must consider sales of the manufacturer's brand in conjunction with sales of the other product lines and brands they carry. Hence, they are likely to add retailers to the channel system more readily than the manufacturer would on its own.

Second, manufacturers following a *multiple-channels* approach use a wide variety of types of retail establishments (e.g., department stores, discount stores, specialty stores), and perhaps direct marketing (e.g., mail order), to sell their brands. The use of multiple channels implies that the manufacturer is seeking wide market coverage (Weigand 1977). Accordingly, the number of individual retailers the manufacturer uses in each trade area is likely to be relatively high.

Third, a reciprocal relationship is expected between *brand sales volume* and distribution intensity. On one side, a brand with high sales volume should enable a larger number of retailers in a trade area to surpass minimum sales threshold levels for adopting and keeping the brand (Corey, Cespedes, and Rangan 1989; Webster 1976). A brand with high sales volume is attractive to a larger variety of retailers. On the other side, greater distribution intensity can lead to greater sales volume for the brand, at least in the short run and within limits, as Corstjens and Doyle (1979) and Stern, El-Ansary, and Coughlan (1996) have argued.

Research Method

The product category chosen to test the conceptual framework is stereo speakers in the consumer electronics industry in the U.S. domestic market. Distribution for that product category is handled predominantly by a network of independent retail dealers. The marketplace shows a wide range of distribution intensity levels for speakers. Significant variations also are evident in brand strategy, channel practices, and retailer requirements. The field interviews indicated a need to gather data from manufacturers to effectively operationalize the constructs in our conceptual framework.

Data Collection Method

Because the number of stereo speaker manufacturers selling in the U.S. domestic market is not large, we attempted to identify their complete population. The electronics industry has an industry association that assists members and other interested parties, but a complete list of manufacturers was unavailable from it. We therefore used a catalog of the annual Consumer Electronics Show, the primary trade meeting for the industry, which listed the manufacturers in attendance. Other manufacturers and brands were added by going through trade magazines, advertisements, and articles, as well as by talking to manufacturers and retail dealers.

In a four-day period at the Consumer Electronics Show, we made contact with managers from approximately 40 manufacturing companies. They were made aware of the importance of the study and their firms' participation in it. The name of the manager most familiar with marketing and distribution issues for each brand was obtained. In all cases, a verbal commitment either to respond to the survey or to endorse the study to qualified respondents was pursued. For firms not contacted at the show, we found qualified respondents either through telephone conversations or by using the conference catalog to identify the marketing director or marketing vice-president for the brand.

The final sample frame consisted of 219 brands of stereo speakers from 209 manufacturing firms. For manufacturers with multiple brands, only brands produced and marketed by independent divisions were treated as separable observations. An example is Harmon/Kardon, which has several distinct brands in the market (e.g., Harmon/Kardon, Pyle, EPI, JBL).

The questionnaire developed for the study had three versions, one for home speakers and the other two tailored in a format for automotive and specialty speakers, respectively. Aside from differences in wording to anchor responses to the type of speaker, the questionnaires were identical.

We used a four-step approach in soliciting responses. First, we sent the identified expert for each brand an initial letter introducing the study, its potential value, and the importance of his or her participation. Second, we sent a first wave of questionnaires five days later with another cover letter and a prepaid return envelope. Third, we called managers who had not responded within the first ten days in an attempt to solicit their participation. Fourth, we sent a second wave of questionnaires with another cover letter, a return envelope, and a brochure introducing a new distribution management program at our university. In all four steps, we assured participating firms of confidentiality and invited their questions by listing our telephone numbers. More than 20 managers did call one of us.

Although the use of single respondents has been criticized in the marketing literature (Phillips 1981), the specific nature of the responses solicited in our study seemed to justify that approach. The information necessary for our analysis related to a narrow range of the firm's activities for a single brand. We therefore sought the individual manager most knowledgeable about the marketing strategy and distribution for the brand. In a majority of cases, personal interviews conducted at the Consumer Electronics Show and by telephone helped identify such qualified respondents.

A total of 85 questionnaires were returned from 84 different manufacturers, which represented a 38.8% return rate. Of the 85 brands, 58 were home speakers, 22 were automotive speakers, and 5 were specialty speakers. The first wave yielded 68 questionnaires and the second wave 17 questionnaires.

To assess possible nonresponse bias, we compared the responses from the first wave of questionnaires with those from the second wave (Armstrong and Overton 1977) on the constructs examined in the study. A MANOVA analysis showed no significant differences between the two

groups. We attempted to gain information from the industry association on market share and sales for the various brands but were unable to do so because such data are collected and presented only at more aggregate product-line levels.

Operationalization of Constructs

Initially, we reviewed the literature to identify scales and items that might be adopted in our research. Several new items and measures needed to be developed, based on the domain of the study. No measure of distribution intensity existed prior to our study. The same four manufacturers and 15 retailers in the electronics, pet food, and hair care product categories that we had interviewed initially to construct the conceptual framework were used in shaping the questionnaire and its items. The questionnaire went through several iterations. The managers were instructed to respond to the items on the basis of their domestic operations.

We followed the procedure outlined by Churchill (1991) in arriving at the final measurement scales for distribution intensity, brand positioning on quality, and target focus. We examined intercorrelations among the items designed for each scale. One item was removed from each of the three scales because of low correlations. We then conducted exploratory factor analysis to determine the scales' unidimensionality and discriminant validity. One additional item for target focus was removed on the basis of that analysis. Finally, we computed alpha coefficients; each of the scales has strong internal consistency. The final scales are reproduced in the Appendix.

Four items were included in the final scale measuring distribution intensity, which is the extent to which a manufacturer relies on numerous retailers in each trade area to carry its brand. Three Likert items related to how selective the manufacturer is in aligning with retailers in its trade areas. After reverse coding, a high score on each item reflects that the manufacturer is, in a relative sense, relying on numerous retailers in its trade areas to carry its brand. The fourth item asked about the firm's distribution pattern in comparison to that of competitors on a scale ranging from "exclusive" to "intensive." Coefficient alpha is .84 for the scale. In a validation effort, one of us traveled to a suburb of

a major city in the Southeast and visited each retail store that carried home speakers. An alternative measure of distribution intensity was constructed by counting the number of stores that carried each brand. The two measures are correlated at .61, which offers some evidence of convergent validity.

The scale for brand positioning on quality—the extent to which the manufacturer attempts to convey to consumers that the brand has superior ability to perform its functions (Kotler and Armstrong 1993; Zeithaml 1988)—had three items relating to the positioning of the brand on prestige, performance, and quality from the low end to the high end. Coefficient alpha is .86 for the scale.

Three items made up the final scale for target focus, which is the extent to which the manufacturer concentrates on a narrow spectrum of the general market (i.e., the scope of targeted customers). They pertained to the number of potential customers, the spectrum of customers, and the degree to which a niche strategy is used for the brand. Coefficient alpha is .74 for the scale.

Factor analysis results for the three scales after an orthogonal rotation are reported in Table 1. Each factor has an eigenvalue greater than one, and the cumulative variance explained by the three factors is above 71%. The loadings of the items on their respective factors are all above .64. The factorial complexity of the solution is low, with only one item having a cross loading above .40.

We measured contractual restrictiveness, that is, the degree to which a formal agreement between a manufacturer and retailer reduces retailer freedom of managerial choice, with a five-item index. Managers first indicated through a yes-or-no question whether they had a formal agreement with retailers. If they did, they were asked to indicate which of four issues were specifically addressed in the agreement.

A three-item index was used to measure retailer investments, which are the expenditures in resources the retailer must make to sell the brand effectively. The index centered on inventory and the money and time needed to make new salespeople knowledgeable about the brand. There is no theoretical reason to believe that brands requiring a large investment in salesperson training also require a large

TABLE 1
Factor Analysis of Measurement Scales

Construct	Item	Factor 1 Distribution Intensity	Factor 2 Brand Positioning	Factor 3 Target Focus
Distribution intensity	DI1	.79	-.27	-.20
	DI2	.72	-.48	-.10
	DI3	.83	-.11	-.18
	DI4	.73	-.03	-.32
Brand positioning	BP1	-.16	.80	.29
	BP2	-.05	.92	.04
	BP3	-.31	.79	.21
Target focus	TF1	-.15	.13	.80
	TF2	-.27	.18	.64
	TF3	-.19	.14	.84

investment in inventory. Again, such investments are not considered "specialized."

Coordination efforts were measured by the extent (low to high) to which manufacturers exerted effort to coordinate nine retailer decisions areas. This measure was treated as an index rather than as a scale; simply because manufacturer personnel choose to exert effort on certain retailer decision areas (e.g., inventory levels) does not mean they exert effort on others (e.g., store appearance).

To measure manufacturer support programs, we included a total of nine possible means of assistance and an "other" category in the questionnaire. The managers indicated on a yes-or-no basis which assistances were provided to associated retailers. An index of support programs was established from a count of the yes responses.

For the control variables, to measure use of distributors, we asked managers whether a distributor-retailer-consumer channel was used. To measure the use of multiple channels we asked the managers to indicate which types of stores were used in selling the brand. Furthermore, we asked whether the manufacturer used any "direct marketing to consumers (e.g., mailorder)."

Three items were used to measure the brand's sales volume. Two asked about the brand's sales volume in dollars and sales units relative to competitors. The third item asked respondents to indicate which one of seven categories reflected the sales volume of the brand. Coefficient alpha is .85 for the sales volume scale.

Results

Model Specification and Test

Table 2 is the correlation matrix for the measures. Multicollinearity is evident between the interaction terms and their underlying components. To address that problem, we used the standardization procedure proposed by Friedrich (1982). Compared to mean-centering, this procedure affords better comparability of the coefficients across the additive and interaction models. The measures for the independent variables and the moderator variables were first standardized; then the cross-product terms were formed by multiplying the appropriate independent variable and moderator variable together.

The method recommended by Aiken and West (1991) for testing moderator effects was followed. Essentially, the variance in distribution intensity explained by the additive model is compared with the variance explained by the interaction model that includes cross-product terms representing the hypothesized interactions between the moderators and the independent variables. The interaction model is judged to be superior if the variance it explains is significantly higher than that explained by the additive model. In such cases, the hypothesized moderating effects can be tested by examining the sign and statistical significance of the parameter estimates of the cross-product terms.

The additive model represented in Equation 1 was tested by multiple regression analysis; the results are reported in the first column of Table 3. The control variables were included to ensure an adequate test of the research hypothe-

ses, because their effects would be taken into account in the multivariate analysis. In Table 2, we provide descriptions for the variables in Equation 1.

$$(1) \quad DI = BP + TF + CE + SP + CR + RI + UD + MC + BS + e$$

Next, the interaction model in Equation 2 was tested. The main effects for contractual restrictiveness and retailer investments were still included. Results are reported in the second column of Table 3.

$$(2) \quad DI = BP + TF + CE + SP + CR + RI + UD + MC + BS + BP*CR + CE*RI + SP*RI + e$$

The variance in distribution intensity explained by the interaction model in Equation 2 is .18 more than the variance explained by the additive model in Equation 1, an increase of 39% (.18/.46). The increase in variance explained is significant at $p < .01$. Therefore, the interaction model is superior to the additive model, which shows that further examination of the individual moderator effects is warranted. As is evident from Table 3, each of the moderator effects is significant.

When a significant moderator effect is found, Aiken and West (1991) recommend assessing the relationship between the independent variable and the dependent variable for plus-and-minus one standard deviation of the moderator. Such an analysis was performed for each of the three moderator effects. The results are reported in Table 4 and help clarify the specific conditional effects of the moderators on the relationships between the independent and dependent variables in question.

Finally, we examined the possible impact of type of speaker, whether a home speaker brand or an automotive speaker brand, by including a dummy variable in each equation and using home speaker brands as the holdout category. The dummy variable was nonsignificant in each case. A dummy was not included for specialty speaker brands because of the small number (five) in the sample.

Hypotheses Tests

Brand positioning on quality has a significant inverse relationship with distribution intensity ($b = -.20$, $p < .05$), thereby providing support for H₁. Manufacturers of brands positioned high on quality are attempting to convey to consumers that their brands are special in performance and prestige. Such manufacturers are likely to be sensitive to retailers' reputations and their ability to sell and service high-end brands and are likely to screen accordingly. Brands positioned near the low end of the quality continuum require relatively wide market coverage and intrabrand competition to enhance unit sales.

As was proposed in H₂, contractual restrictiveness significantly weakens ($p < .01$) the inverse relationship between brand positioning on quality and distribution intensity (refer to Tables 3 and 4). By signing restrictive contracts, retailers are making a credible commitment to the manufacturer (Williamson 1983). Hence, manufacturers that position their brands as high quality may be able to increase distribution intensity somewhat more than corresponding manufacturers that do not rely on restrictive contracts.

H₃ is supported, because target focus has a significant inverse relationship ($b = -.23$, $p < .01$) with distribution

TABLE 2
Descriptive Statistics

	Mean	Standard Deviation	Correlations												
			DI	BP	TF	CE	SP	CR	RI	BS	MC	UD	BP*CR	CE*RI	SP*RI
Distribution intensity [DI]	2.21	1.01	1.00												
Brand positioning on quality [BP]	4.35	.67	-.51*	1.00											
Target focus[TF]	3.31	1.04	-.54*	.43*	1.00										
Coordination efforts [CE]	3.16	.70	-.09	.14	-.15	1.00									
Support programs[SP]	1.74	.85	.37*	-.17	-.40*	.26*	1.00								
Contractual restrictiveness[CR]	1.58	1.66	-.20	.15	-.11	.33*	.13	1.00							
Retailer investments [RI]	2.76	.69	-.19	.33*	.14	.30*	.05	.20	1.00						
Brand sales volume [BS]	2.30	1.03	.32*	-.10	-.30*	.36*	.33*	.18	.27*	1.00					
Use of multiple channels [MC]	2.84	2.55	.28*	-.31*	-.18	.05	.23*	.03	.12	.36*	1.00				
Use of distributors[UD]	.54	1.01	.35*	-.01	-.11	-.08	.08	-.27*	-.02	.04	.11	1.00			
Interaction I: CR with BP[BP*CR]	7.02	7.49	-.21*	.24*	-.08*	.32*	.12	.98*	.23*	.16	.01	-.26*	1.00		
Interaction II: RI with CE[CE*RI]	8.85	3.17	-.14	.31*	-.01	.77*	.22*	-.32*	.81*	.40*	.10	-.06	.33*	1.00	
Interaction III: RI with SP[SP*RI]	4.84	2.67	.26*	-.02	-.27*	.41*	.86*	.23*	.48*	.48*	.27*	.03	.23*	.59*	1.00

*r is significant at $p < .05$.

TABLE 3
Estimation Results: Distribution Intensity

Independent Variables	Main Effects Only		Main Effects and Interactions	
	Parameter Estimate ^a	t-value	Parameter Estimate ^a	t-value
Brand positioning	-.26 (.10)	-2.73***	-.20 (.08)	-2.37**
Target focus	-.25 (.10)	-2.35**	-.23 (.09)	-2.68***
Contractual restrictiveness	-.07 (.07)	-.91	-.08 (.06)	-1.21
Coordination efforts	-.18 (.10)	-1.80**	-.13 (.08)	-1.56*
Support programs	.13 (.08)	1.64*	.10 (.07)	1.37*
Retailer investments	.04 (.11)	.39	.05 (.09)	.58
Use of distributors	.22 (.07)	3.21***	.23 (.06)	4.07***
Multiple channels	-.01 (.09)	-.14	-.004 (.07)	-.06
Brand sales volume	.24 (.09)	2.55***	.17 (.08)	2.08**
Brand positioning × contractual restrictiveness			.30 (.07)	4.10***
Coordination efforts × retailer investments			.37 (.10)	3.59***
Support programs × retailer investments			.18 (.09)	1.93**
Overall model	adjusted R ² = .46 F _{9,64} = 8.00 p < .0001		adjusted R ² = .64 delta R ² _{interaction-main} = .18 F _{12,61} = 11.53 p < .0001	

^aStandard error is in parentheses.

*p-values < .10 based on one-tailed tests.

**p-values < .05 based on one-tailed tests.

***p-values < .01 based on one-tailed tests.

intensity. Manufacturers going after the mass market must attempt to serve customers with widely varied needs and shopping patterns. A relatively large number of retailers is needed in each trade area to cover such a diverse mix of customers effectively.

Some support is provided for H₄, because manufacturer coordination efforts are related inversely, though weakly ($b = -.13$, $p < .10$), to distribution intensity. When close coordination is needed, manufacturers are likely to limit distribution to reduce potential difficulties in channel operations and foster a supportive atmosphere in their exchange relationships. Retailer receptivity to manufacturer coordination efforts should be enhanced when safeguards against intrabrand competition are provided (Scherer and Ross 1990).

Retailer investments significantly weaken ($p < .01$) the inverse relationship between manufacturer coordination efforts and distribution intensity. H₅, therefore, is supported. Retailers making heavy investments in a brand are signaling to the manufacturer their willingness to sell and service it effectively. This may enable manufacturers desiring close coordination to increase distribution intensity to some degree.

Manufacturer support programs are related positively, though weakly ($b = .10$, $p < .10$), to distribution intensity, which provides some support for H₆. When a manufacturer provides many support programs, retailers may have some incentive to join and remain in the channel system. Such programs can lower retailer costs and risks while making it easier to do business with the manufacturer.

TABLE 4
Conditional Effects of Moderators on
Distribution Intensity^a

	Distribution Intensity
Effects of Brand Positioning on Quality	
High contractual restrictiveness	.10
Low contractual restrictiveness	-.50
Effects of Coordination Efforts	
High retailer investments	.24
Low retailer investments	-.50
Effects of Support Programs	
High retailer investments	.28
Low retailer investments	-.08

^aThese are the estimated standardized effects of brand positioning, coordination efforts, and support programs on distribution intensity when the moderator variables of contractual restrictiveness or retailer investments are either one standard deviation above (high) or one standard deviation below (low) the mean.

Finally, H_7 is supported, because retailer investments are shown to strengthen the positive relationship between support programs and distribution intensity ($p < .05$). When manufacturer support programs and retailer investments are both at a relatively high level, each firm is sending a signal of its commitment to the exchange. In such cases, the support programs offered by the manufacturer may be particularly successful in attracting and retaining retailers in its channel system.

Control Variables

Two of the three control variables have significant relationships with distribution intensity. The manufacturer's use of independent distributors is related positively ($b = .23$, $p < .01$) to distribution intensity. Distributors are likely to be more liberal in adding retailers to the channel system than are manufacturers. Brand sales volume also has a positive relation with distribution intensity ($b = .17$, $p < .05$). A high-volume brand is able to support more retailers in a trade area than is a low-volume brand. Furthermore, higher distribution intensity may contribute to greater sales of the brand.

Discussion

We modified the traditional approach taken in research on distribution intensity in the marketing literature. Previous theoretical research has focused on distribution intensity across different classes of goods. Although such work is important, we address instead why distribution intensity varies markedly across brands within many categories of consumer products. Our field interviews indicate that managers in manufacturing organizations face a complex and difficult decision on distribution intensity for their brands and have little, if any, secondary information to assist them with their decision. Therefore, systematic research on distribution intensity across brands has the potential to afford considerable insight, both theoretical and managerial. No such research has been reported previously.

Our integrative conceptual framework provides an initial theoretical explanation of why distribution intensity varies across brands. Our empirical results strongly support the conceptual framework and are the first direct evidence of the determinants of distribution intensity. Prominent among the empirical results is support for three moderator effects that are based on credible commitments made by retailers to manufacturers. Our study therefore enhances our understanding of the distribution intensity construct and establishes a foundation of knowledge on which others can build.

Manufacturers positioning their brands as high quality have reason to follow a highly selective distribution policy. Such a policy has potential disadvantages, however, including a poor bargaining position with associated retailers, weak market coverage, and lost sales opportunities. Internal pressures can arise to increase sales of the brand by increasing distribution intensity. Restrictive contracts appear to give manufacturers of high-end brands the means to intensify distribution in response to such disadvantages and pressures. Manufacturer uncertainty about retailer internal operations is likely to be reduced when retailers accept the terms of a restrictive contract. As a result, the manufacturer has greater assurance that retailer behaviors at least reinforce, if not enhance, the desired image of the brand, even as intrabrand competition increases to some degree. Retailers on the "margin" in terms of reputation and quality of operations are likely to be among the beneficiaries. In contrast, when restrictive contracts are not used or agreed to by retailers, manufacturers positioning their brands as high quality are likely to keep distribution intensity relatively low. Manufacturer fears of misalignment in the channel are likely to dominate, which leads to a necessary sacrifice of market coverage.

Manufacturers desiring to closely coordinate their channel relationships have reason to limit the number of retailers used in each trade area as well. However, they are likely to face the same disadvantages of selective distribution and the same internal pressures to increase brand sales. By making heavy investments in inventory and training of sales personnel, retailers provide a credible commitment to the manufacturer, thereby signaling their good faith and willingness to support the brand. Retailers clearly have an incentive to make such channel relationships work. Retailer receptivity and responsiveness to coordination efforts should be facilitated as a result, thus enabling manufacturers in need of close coordination to increase distribution intensity to some degree. Such expansion should enhance market coverage while enabling the manufacturer to maintain desired levels of channel coordination, at least as long as intrabrand competition does not become problematic. Without such retailer investments, the leverage of the manufacturer is reduced and distribution intensity is likely to be kept at a relatively low level.

From one perspective, the moderator results may appear somewhat counterintuitive. Retailers make credible commitments, and the manufacturer's response is to relax limits on distribution intensity to enhance market coverage for its brand. Two points identified in our field interviews are relevant. First, that retailers make credible commitments or pledges does not mean they have high

commitment in the relationship with the manufacturer (see Anderson and Weitz 1992). Retailers often make credible commitments to acquire the brands they desire, but the channel relationships involved may be of only moderate strength, if that. Second, though retailers' credible commitments appear to enable manufacturers to increase distribution intensity levels from what they would otherwise be, the manufacturers in question still offer associated retailers some protection from intrabrand competition. In other words, the floodgates are not being opened.

Manufacturers that provide many support programs are likely to have a relatively high level of distribution intensity. Retailer investments appear to further strengthen that positive relationship. Manufacturer support programs and retailer investments appear to complement one another, as each represents a commitment in resources. The manufacturer provides assistance to the retailer while the retailer invests in inventory and training to support the brand. Therefore, both the manufacturer and the retailer are taking supportive actions and sending signals of their desire to make the channel relationship work. As a result, when retailer investments are high, the support programs offered by the manufacturer may be particularly effective in attracting and retaining retailers in the channel system. When required retailer investments are low, on the other hand, the manufacturer's support programs may be seen as relatively unimportant by retailers. As a result, they may help attract fewer retailers into the manufacturer's channel system. Many retailers attracted into the channel system may not be retained because of relatively weak channel relationships with the manufacturer.

The level of target focus for the brand also must be taken into account. Brands targeted to a broad spectrum of consumers need high distribution intensity to facilitate market coverage. A smaller and less diverse group of retailers is needed when manufacturers target a relatively small and homogeneous group of consumers for their brands.

Limitations

Two limitations of our study must be addressed. First, specification error could be a problem, even given the strong explanatory power of our interaction model. Our study represents a first attempt to build and test a conceptual framework of distribution intensity. Despite the time and effort devoted to developing it, important factors may have been omitted. More comprehensive conceptual frameworks relating to the distribution intensity construct need to be developed and examined empirically in the future.

Second, the generalizability of our empirical results is in question. The conceptual framework appears to be broadly applicable to any category of consumer product in which wide variation exists in desired distribution patterns for brands, though this must be verified. Although intended variation in distribution intensity for brands is likely to occur primarily in durable goods categories, significant differences exist in some consumer nondurable categories as well, such as in pet food and hair care categories. In product categories in which intensive distribution is sought for most brands, such as for the majority of consumer packaged

goods, our conceptual framework does not apply well, if at all. Whether our findings hold in business-to-business product and service categories must be explored as well.

Future Research Needs

Several other research issues should be addressed. Retailers' credible commitments appear to enable manufacturers following a selective distribution policy to relax limits on distribution intensity to some degree to promote market coverage. The question of how far limits on intensity can be relaxed before levels of intrabrand competition become unmanageable for those manufacturers must be examined. More broadly, the actual performance implications of decisions on distribution intensity should be explored.

Research on the degree to which retailers actually fulfill their pledges would be illuminating. Especially useful would be the development of models that predict the likelihood of retailers reneging on their commitments under various conditions (e.g., downturn in the economy or the industry). Whether manufacturers react more to the signaling associated with retailers' credible commitments than to the reality of the situation, including actual retailer behaviors and levels of support for their brands, must be researched as well.

In general, we would expect that as manufacturers associate with a greater number of retail outlets, the corresponding channel relationships would become less close. There may be ways to circumvent such a tendency, however, such as through information sharing and the frequent introduction of new products. The 3M Company has a reputation for using such mechanisms to build strong channel relationships even though it uses an intensive distribution approach. An examination of how strong channel relationships can be developed and maintained in the face of intensive distribution could prove useful.

We examine distribution intensity as it is generally established across trade areas by manufacturers for their brands. Research that examines how characteristics of individual trade areas affect distribution intensity also could prove fruitful. Our field interviews indicate that individual trading areas differ to some degree on such factors as strategic importance and competitive intensity. Manufacturer personnel indicate that such factors did not sway their firms' general approach to distribution intensity but did induce some variation.

We are the first to develop a measure of distribution intensity. Although the measure is internally consistent and is shown to have a promising level of convergent validity, improved measures of distribution intensity need to be developed in further research. Empirical research also is needed on how distribution intensity varies across product categories and different classes of goods. How frequency of purchase and other product characteristics affect distribution intensity could be explored in the process.

In conclusion, though our conceptualization and empirical findings are encouraging, other studies must be conducted to afford an adequate understanding of the distribution intensity construct. Our study provides a useful foundation on which future research studies can build.

Appendix

Measures

Distribution intensity. Three of the items were measured on a five-point Likert scale ranging from 1, "strongly disagree," to 5, "strongly agree":

1. We are highly selective in our choice of retailers who carry our brand in each trade area (reverse coded).
2. Only a select few retail outlets per trade area are allowed to carry our brand (reverse coded).
3. We try to keep the number of retailers carrying our brand in each trade area to a minimum (reverse coded).

The fourth item was measured on a five-point scale ranging from 1, "exclusive," to 5, "intensive":

4. Compared to your competition, how would you describe your brand's distribution pattern for each trade area?

Brand positioning on quality. The three items were measured in the following format on a five-point scale ranging from 1, "low end," to 5, "high end":

How do you position the brand on the following product characteristics?:

1. Prestige or image of the brand?
2. Product performance?
3. Overall product quality?

Target focus. The three items were measured on a five-point Likert scale ranging from 1, "strongly disagree," to 5, "strongly agree":

1. By design, our brand has a small number of potential customers
2. By design, our speaker brand appeals to a narrow spectrum of consumers only.
3. We use a niche strategy for marketing our brand.

Contractual restrictiveness. The manufacturers were first asked, "Do you have a formal contractual agreement with your retailers concerning the sale of your brand?" They responded "yes" or "no."

If yes, they were asked "Which of the following issues are addressed in your contractual agreement with retailers?"

1. Product displays for brand
2. Brand sales goals for store
3. Brand sales promotions
4. Contract termination

The index ranged from 0, no formal contractual agreement, to 4, all four issues were addressed.

Retailer investments. The three items were measured on a five-point scale ranging from 1, "much lower" to 5, "much higher."

Relative to all other speaker brands in the market, how does your brand compare on brand specific dealer investments?

1. The amount of money dealers have to spend on training new salespeople in order to handle our brand is ...
2. The amount of time new salespeople have to spend on training in order to handle our brand is ...
3. The level of inventory needed to be adequately stocked for our brand is ...

Coordination efforts. The index was based on the following measure using a five-point scale ranging from 1, "low," to 5, "high":

Please indicate the extent to which you as the manufacturer directly or indirectly (i.e., through your distributors) exert effort to coordinate the following retailer activities.

1. Implementation of sales promotions.
2. Use of promotional aids (e.g., brochures, posters).
3. Use of product displays.
4. Dealer return goods policy.
5. Dealer service standards.
6. Dealer pricing.
7. Dealer sales presentations to customers.
8. Dealer inventory levels.
9. Store appearance (e.g. layout, shelf-design).

Support programs. Manufacturers were asked, "Which of the following assistances do you provide to your retailers?"

1. Promotional allowances.
2. Promotional material.
3. Product displays.
4. Dealer hot-line.
5. Consumer hot-line.
6. Inventory management.
7. Inventory financing.
8. Over-the-counter warranty policy.
9. Accounting support.
10. Other.

Use of distributors. Manufacturers were asked whether they used a "Distributor-Retailer-Consumer" channel of distribution.

Use of multiple channels. Manufacturer responded "yes" or "no" to the following items:

Indicate which of the following types of stores your firm uses for selling your brand in the U.S.

- Audio-Video Electronic Stores
- Department Stores
- Discount Stores
- Warehouse Style Discount Stores
- Variety Stores
- Catalogue Showrooms
- Other

Furthermore, whether the manufacturer did any direct marketing to consumers (e.g., mail order) was incorporated into the index.

Brand sales volume. Two items were measured on a five-point scale ranging from 1, "low," to 5, "high":

Relative to your competition, the sales volume for your brand in the domestic market:

1. ... calculated in US \$ is ...
2. ... calculated in units is ...

The third item was measured on a seven-point categorization from low to high levels of U.S. dollars.

3. What was the approximate sales volume (in US \$) of your brand in 1991?

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The Management of Customer-Contact Service Employees: An Empirical Investigation

The authors develop and test a model of service employee management that examines constructs simultaneously across three interfaces of the service delivery process: manager-employee, employee-role, and employee-customer. The authors examine the attitudinal and behavioral responses of customer-contact employees that can influence customers' perceptions of service quality, the relationships among these responses, and three formal managerial control mechanisms (empowerment, behavior-based employee evaluation, and management commitment to service quality). The findings indicate that managers who are committed to service quality are more likely to empower their employees and use behavior-based evaluation. However, the use of empowerment has both positive and negative consequences in the management of contact employees. Some of the negative consequences are mitigated by the positive effects of behavior-based employee evaluation. To increase customers' perceptions of service quality, managers must increase employees' self-efficacy and job satisfaction, and reduce employees' role conflict and ambiguity. Implications for the management of customer-contact service employees and directions for further research are discussed.

Many service firms are subject to failures in service delivery because they must depend on customer-contact employees to deliver service to their customers. Because the delivery of service occurs during the interaction between contact employees and customers (the service encounter), the attitudes and behaviors of contact employees can influence customers' perceptions of the service (Bowen and Schneider 1985). Because of the importance of the service encounter, service firms must find ways to effectively manage their customer-contact employees to help ensure that their attitudes and behaviors are conducive to the delivery of quality service.

The management of customer-contact employees has been extensively discussed in the services marketing literature. However, previous research examines the employee management process from one of three perspectives: the manager-employee interface, the employee-role interface, and the employee-customer interface. The manager-

employee interface deals with human resource management issues and the activities involved in managing the responses of customer-contact employees. Previous research in this area has examined issues such as management commitment to service quality (cf. Ahmed and Parasuraman 1994), empowerment (cf. Bowen and Lawler 1992), employee socialization (cf. Hartline and Ferrell 1993), traditional managerial functions (cf. Bowen and Schneider 1985), employee reward policies (cf. Bush et al. 1990), and internal marketing (cf. George 1990). The employee-role interface deals with the relationships among contact employee behaviors, responses, and attitudes. Research in this area has investigated the effects of role conflict and role ambiguity (cf. Singh 1993); the relationships among job satisfaction, self-efficacy, adaptability, and employee effort (cf. Glisson and Durick 1988; Spiro and Weitz 1990); and the use of cognitive scripts in the delivery of service (cf. Humphrey and Ashforth 1994). The employee-customer interface deals with employee-customer interaction during the service encounter. Previous research in this area has examined the relationship between customer perceptions of the service encounter and contact employees' attitudinal and behavioral responses (cf. Bitner 1990; Bitner, Booms, and Mohr 1994). Specific employee responses that have been investigated include role stress (cf. Singh 1993); ability, competence, and adaptability (cf. Bitner, Booms, and Tetreault 1990); and job satisfaction (cf. Bowen and Schneider 1985).

The findings from previous research lead to two major conclusions: (1) managers can influence customer-contact employees' responses so as to enhance service quality and

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(2) the responses of customer-contact employees heavily influence customers' perceptions of service quality and the service encounter. Drawing from these conclusions, we attempt to gain a better understanding of contact employee management by simultaneously examining all three interfaces. Within the employee-customer interface, we examine the attitudinal and behavioral responses of customer-contact employees that can influence customers' perceptions of service quality. We also examine the relationships among these responses within the employee-role interface. Within the manager-employee interface, we examine managerial control mechanisms that can be used to manage the responses of customer-contact employees. Consistent with a call from Rust and Oliver (1994), we also capture perceptions and judgments across all three participants in the service quality delivery process: managers, employees, and customers. This approach enables us to examine the relationships between constructs across all three interfaces and determine the relative importance of these relationships within the overall employee management process.

Service Employee Management

Although employee management has been addressed in marketing (primarily in sales research) (cf. Basu et al. 1985; Churchill et al. 1985; Singh 1993; Spiro and Weitz 1990), few attempts have been made to explicate a composite description of the employee management process in service organizations. In one of the first studies to address service employee management, Bowen and Schneider (1985) argue that traditional managerial functions should be altered because of the unique characteristics of services. Some of their recommendations include (1) involving employees in the planning and organizing of service activities, (2) recognizing that the work environment of service employees has a strong influence on how customers experience the service, and (3) understanding that the firm's human resource practices can ultimately influence customers' service experiences. The underlying premise of these recommendations is that if managers treat their employees well, the employees will treat customers well (Bowen and Schneider 1985; Grönroos 1983).

Zeithaml, Berry, and Parasuraman (1988) identify several communication and control processes that managers could implement to manage service employees. These processes include managerial activities and employee responses that are hypothesized to affect service quality. Parasuraman, Berry, and Zeithaml (1990) test these relationships, but many of their hypotheses are not supported. Subsequent research suggests that the lack of empirical support is due to the use of gap analysis and problems with the measurement of service quality (cf. Babakus and Boller 1992; Cronin and Taylor 1992). In a later study, Singh (1993) examines several managerial determinants and employee response outcomes of the role ambiguity experienced by boundary-spanning employees. Although his study does not focus exclusively on service employees, it provides empirical evidence that managerial actions do influence boundary-spanning employee responses. Still, Singh's study does not examine service quality as an outcome or the inter-

action between boundary-spanning employees and the firm's customers.

In the vein of previous attempts to embody the service employee management process, we propose the conceptual model in Figure 1. Drawing from research in a variety of disciplines, this model explores important components of service employee management simultaneously across all three interfaces. Rather than adapt previous models to a services framework, we attempt to develop a model that captures relationships that are unique to service employee management or are understudied within the context of services marketing. In the following discussion, we examine how the attitudinal and behavioral responses of contact employees affect customers' perceptions of service quality (the employee-customer interface). Next, we discuss the relationships among these employee responses (the employee-role interface). Finally, we examine the managerial control mechanisms that can be used to manage employee responses (the manager-employee interface).

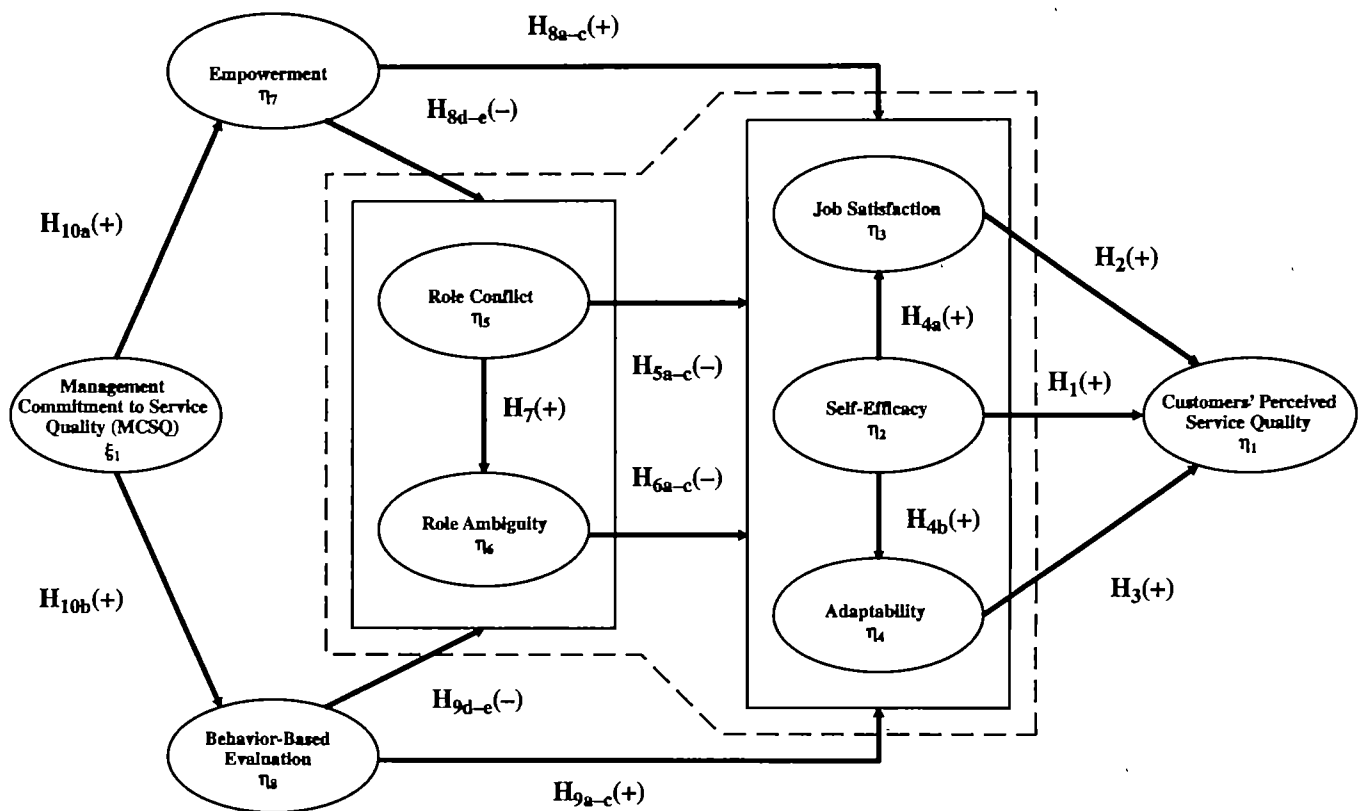
The Employee-Customer Interface

The attitudinal and behavioral responses of customer-contact employees are important because of the interactive nature of service delivery (how the service is delivered) (Grönroos 1983). Research has shown that employees' attitudinal and behavioral responses can positively and negatively affect customers' perceptions of the service encounter and their judgments of service quality (Bitner 1990). On the negative side, early studies by Schneider (1980) and Shamir (1980) reveal that employees' role stress (conflict and ambiguity) and dissatisfaction are major contributors to their inability to deliver good service. Singh (1993) provides empirical evidence that the role ambiguity experienced by boundary-spanning employees greatly reduces their job satisfaction and performance. Contact employees who experience ambiguous or conflicting role expectations are likely to exhibit decreased job satisfaction and performance, which leads to a decrease in customers' perceived service quality (Schneider 1980).

Other attitudinal and behavioral responses have been shown to positively affect customer perceptions of quality. Bateson (1985) argues that contact employees are better able to satisfy customers when the employee has some control over the service encounter. Similarly, Bitner (1990) and Bitner, Booms, and Tetreault (1990) show through qualitative studies that customers are more satisfied with the service encounter when employees possess the ability, willingness, and competence to solve their problems. Bitner, Booms, and Tetreault (1990) also find that an employee's ability to adapt to special needs and requests enhances customers' perceptions of the service encounter. Finally, several studies have shown that the friendliness, enthusiasm, and attentiveness of contact employees positively affect customers' perceptions of service quality (cf. Bowen and Schneider 1985; Rafaeli 1993).

Based on a review of the literature, we chose to examine five attitudinal and behavioral responses of customer-contact employees that are hypothesized to positively (self-efficacy, job satisfaction, and adaptability) and negatively (role conflict and role ambiguity) affect the ability of contact employees to serve customers in a manner that enhances ser-

FIGURE 1
The Management of Customer-Contact Service Employees: A Conceptual Model^a



^aConstructs within the dashed line are the attitudinal and behavioral responses of customer-contact employees.

vice quality. These responses were chosen for two reasons. First, though self-efficacy, job satisfaction, and adaptability are familiar constructs in other literature, the services marketing literature has yet to empirically link these responses to customers' perceptions of service quality. Second, these five responses have been conceptually linked with all three interfaces. Including these responses enables us to connect the interfaces to examine them simultaneously within the same study. Other constructs that we might have chosen (e.g., effort, persistence, ability) were either too focused within a single interface or too broad for the scope of our study.

Employee self-efficacy. As a key part of Bandura's (1977) social learning theory, self-efficacy refers to an employee's belief in his or her ability to perform job-related tasks. The importance of self-efficacy lies in its ability to increase employee performance. Self-efficacy grows stronger over time as the employee successfully performs tasks and builds the confidence necessary to fulfill his or her role in the organization (Gist and Mitchell 1992). As self-efficacy increases, employees exert more effort, become more persistent, and learn to cope with task-related obstacles (cf. Bandura 1977; Gist 1987). Empirical studies confirm that self-efficacy has a strong, positive relationship with employee performance (cf. Earley 1994). It is therefore reasonable to expect that contact employees who possess strong self-efficacy beliefs are more likely to create favor-

able service encounters than those who do not. Employee performance during a service encounter typically involves responding to customer needs, handling special requests, and performing under adverse circumstances (Bitner, Booms, and Tetreault 1990). Because of the increased effort that accompanies self-efficacy, highly self-efficacious contact employees should perform better in these service activities, thereby increasing customers' perceptions of service quality. Likewise, self-efficacious contact employees should be able to cope with demanding situations that arise during the service encounter.

In summary, the self-efficacy of contact employees should play an important role in shaping customers' perceptions of the service encounter. When customers are served by employees who believe strongly in their own abilities, they are likely to receive higher-quality service. Accordingly, we propose the following hypothesis:

H₁: Higher customer-contact employee self-efficacy leads to a higher level of service quality as perceived by customers.

Employee job satisfaction. Locke (1969, p. 316) defines job satisfaction as "the pleasurable emotional state resulting from the appraisal of one's job as achieving or facilitating the achievement of one's job values." The conceptual domain of job satisfaction is broad, because it includes "all characteristics of the job itself and the work environment which salesmen [sic] find rewarding, fulfilling, and satisfy-

ing, or frustrating and unsatisfying" (Churchill, Ford, and Walker 1974, p. 255). Operationally, job satisfaction consists of several facets, including satisfaction with the supervisor, work, pay, advancement opportunities, coworkers, and customers (Brown and Peterson 1993). Although some studies examine the effects of these facets separately, others average across facets to create a global measure of job satisfaction. We take the latter approach because research indicates that averaging across facets better captures the domain of the job satisfaction construct (Brown and Peterson 1993).

Despite the intuitive connection between job satisfaction and employee performance, meta-analytic research reports a modest correlation of only .15 between employee satisfaction and performance across many studies (Brown and Peterson 1993). However, this weak relationship may be partly due to the fact that most studies measure employee performance in terms of outcomes (i.e., sales volume or quota) rather than in terms of behaviors (i.e., effort, teamwork, friendliness). Churchill and colleagues (1985) argue that job satisfaction is closely related to employees' behavioral performance in a sales context. A similar relationship is likely to occur with respect to service employees. During the service encounter, employee behavioral performance often is the service, as it is perceived by customers (Bitner 1990). This relationship lies in the interaction between contact employees and customers, in which satisfied employees are more likely to engage in behaviors that assist customers (Locke and Latham 1990; Weatherly and Tansik 1993). Schneider (1980) finds evidence that job satisfaction is a primary reason that employees deliver good service. Although many other researchers have argued that customers' perceptions of a service are influenced by employee job satisfaction (cf. Bowen and Schneider 1985; Grönroos 1983), the connection between employee job satisfaction and customers' perceptions of service quality has not been empirically examined. Accordingly, we propose the following hypothesis:

H₂: Higher customer-contact employee job satisfaction leads to a higher level of service quality as perceived by customers.

Employee adaptability. We define *adaptability* as the ability of contact employees to adjust their behavior to the interpersonal demands of the service encounter. This definition is consistent with that of *functional flexibility* and *innovativeness* in the organizational behavior literature (cf. Paulhus and Martin 1988), and that of *adaptive selling* in the sales management literature (Spiro and Weitz 1990). All four terms are functionally equivalent, because their definitions include two common components: (1) the ability to adjust behavior and (2) interpersonal situations. Adaptability can be described as a continuum ranging from conformity to an established script, in which employees approach each customer the same way, to service personalization, in which employees must adapt to serve individual customers (Solomon et al. 1985).

Previous research has linked adaptability with employee performance. For example, Spiro and Weitz (1990) show that salesperson performance is positively correlated with the practice of adaptive selling. Employee adaptability also has been linked with customers' perceptions of the service

encounter. Humphrey and Ashforth (1994) provide evidence that employees who "mindlessly" follow a service script are more likely to make mistakes and less likely to meet the individual needs of their customers. Bitner (1990) and Bitner, Booms, and Tetreault (1990) show that customers evaluate the service encounter more favorably when employees are able to adapt to meet their special needs and requests. This finding is further supported in a qualitative study by Bitner, Booms, and Mohr (1994, p. 99), in which they report that "almost half of particularly satisfying customer encounters reported by employees resulted from their ability to adjust the system to accommodate customer needs and requests. Success is attributed in these cases to the employee's own ability and willingness to adjust." Based on previous research, it is reasonable to expect that contact employees who adapt their behaviors during customer interactions are more likely to fulfill the needs and requests of their customers, thereby increasing customers' perceptions of service quality. On the basis of this reasoning, we propose the following hypothesis:

H₃: Higher customer-contact employee adaptability leads to a higher level of service quality as perceived by customers

The Employee-Role Interface

Effects of self-efficacy. Previous research suggests that self-efficacy has a positive influence on job satisfaction and adaptability. McDonald and Siegall (1992), who found a significant positive correlation between self-efficacy and job satisfaction, argue that job satisfaction increases, because the feelings of competence and confidence that accompany self-efficacy make the job more enjoyable. Increased competence and confidence also should increase employee adaptability, because employees become more able and willing to adapt to customer requests (cf. Jones 1986). On the basis of these findings, we propose the following hypotheses:

H₄: Higher customer-contact employee self-efficacy leads to higher levels of customer-contact employee (a) job satisfaction and (b) adaptability.

Effects of role conflict and role ambiguity. Role conflict is defined as the incompatibility between one or more roles within an employee's role set, such that fulfilling one role would make fulfilling the others more difficult (cf. Weatherly and Tansik 1993). Role ambiguity occurs when an employee "lacks salient information needed to effectively enact his or her role" (Singh 1993, p. 12). Role conflict or ambiguity have been shown to reduce employees' job satisfaction (cf. Brown and Peterson 1993), self-efficacy beliefs (cf. Jex and Gudanowski 1992), and adaptability (Scott and Bruce 1994). We expect these findings to hold in a services context, because contact employees act as "boundary spanners" between the firm and its customers (Bowen and Schneider 1985). This places the contact employee in the unique position of acquiescing to the demands of the firm (i.e., managers, policy, rules) and its customers (Bateson 1985).

As is indicated in Figure 1, we do not hypothesize a direct relationship between role conflict or ambiguity and service quality. Our placement of conflict and ambiguity within the model is based on Schneider's (1980) argument that conflict and ambiguity *precede* other employee

responses. In an empirical test of this relationship, Parasuraman, Berry, and Zeithaml (1990) find no support for a direct relationship between role conflict or ambiguity and service quality. These findings suggest that the effects of role conflict and ambiguity on service quality are mediated by employee responses. As a result, we expect that role conflict and ambiguity will negatively affect the self-efficacy, job satisfaction, and adaptability of customer-contact employees. Hence, we propose the following hypotheses:

H₅: Higher customer-contact employee role conflict leads to lower levels of customer-contact employee (a) self-efficacy, (b) job satisfaction, and (c) adaptability.

H₆: Higher customer-contact employee role ambiguity leads to lower levels of customer-contact employee (a) self-efficacy, (b) job satisfaction, and (c) adaptability.

Previous research also indicates that role conflict exerts a strong influence on role ambiguity (cf. Behrman and Perreault 1984). The conflicting role expectations of the firm, manager, and customers can increase employees' uncertainty about the best way to perform their jobs and the importance of job activities. Hence, we propose the following hypothesis:

H₇: Higher customer-contact employee role conflict leads to a higher level of customer-contact employee role ambiguity.

The Manager-Employee Interface

Many managerial activities have the potential to effectively manage employee behaviors and responses in ways that improve service quality. The problem lies in identifying the most effective activities. Jaworski (1988, p. 26) calls these activities *formal controls* and defines them as "management-initiated mechanisms that influence the probability that employees or groups will behave in ways that support the stated marketing objectives." According to Jaworski, there are three types of formal controls: *input controls* (actions taken prior to the implementation of a marketing activity), *process controls* (attempts to influence behaviors and/or activities during implementation), and *output controls* (setting performance standards and monitoring or evaluating results). Examples of input controls include the recruitment, selection, and training of employees; strategic planning; and resource allocations. Process controls include any mechanism that attempts to influence employee behaviors and responses during implementation (e.g., organizational structure, operating procedures, rewards). Finally, output controls include both performance standards that are stated in terms of quality outcomes (i.e., complaints, service quality, customer satisfaction) and the evaluation of those outcomes.

To make our study manageable, we focus on formal process control mechanisms. This focus seemed appropriate given our study's emphasis on the managerial controls that can be used to make employee behaviors and responses more conducive to the delivery of service quality. Previous service research has addressed the importance of process controls. For example, researchers have argued that to effectively manage boundary-spanning service employees, managers should maintain flexible work climates (Schneider 1980), place greater emphasis on the firm's human resource

practices (Bowen and Schneider 1985), reward employees for their contributions to customer satisfaction (Bowen and Schneider 1985; Reardon and Enis 1990), increase their own commitment to service (George 1990; Zeithaml, Berry, and Parasuraman 1988), and increase employees' discretion (empowerment) in serving customers (Bowen and Lawler 1992; Kelley 1993). After reviewing previous research, we selected three service-related process control mechanisms that matched Jaworski's (1988) definition of formal process controls (i.e., mechanisms associated with the *means* to achieving desired employee responses): empowerment, behavior-based evaluation, and management commitment to service quality (MCSQ). Empowerment and behavior-based evaluation are mechanisms that can be used to control employees' behaviors and activities. Management commitment to service quality is a precursor to the use of other process control mechanisms, which makes it one of the most important factors in the successful implementation of service strategy (George 1990).

Empowerment. Empowerment refers to a situation in which the manager gives employees the discretion to make day-to-day decisions about job-related activities (Bowen and Lawler 1992; Conger and Kanungo 1988). By allowing contact employees to make these decisions, the manager relinquishes control over many aspects of the service delivery process. Empowerment is thought to be necessary because contact employees need the flexibility to make on-the-spot decisions to completely satisfy customers. Allowing contact employees to use their discretion in serving customers has many positive influences on their responses and the service encounter. Bowen and Lawler (1992) suggest that empowered employees feel better about their jobs and more enthusiastic about serving customers, with an end result of quicker response to customer needs and increased customer satisfaction. Although the effects of empowerment have not been empirically verified, studies that have examined similar constructs provide some evidence of empowerment's positive influence. For example, increases in employee job satisfaction and decreases in employee role stress have been associated with employees' decision-making influence (Niehoff, Enz, and Grover 1990), task autonomy (Brown and Peterson 1993), and decision-making latitude (Westman 1992). Likewise, Singh (1993) reports that boundary-spanning employees who are given job autonomy experience significantly less role ambiguity.

One of the primary outcomes of empowerment is increased employee self-efficacy (Conger and Kanungo 1988). As employees gain more discretion over how their jobs are performed, their levels of self-efficacy increase because *they* decide the best way to perform a given task (Gist and Mitchell 1992). Empowered employees also are likely to be more adaptive because of the increased flexibility that accompanies empowerment (Scott and Bruce 1994). Empowerment removes the constraints imposed on customer-contact employees, which gives them room to maneuver as they attempt to serve customers' needs (Reardon and Enis 1990). The empowerment/adaptability relationship has received tentative empirical support, because adaptability has been associated with autonomy and decision-making

influence (Niehoff, Enz, and Grover 1990; Scott and Bruce 1994), as well as with freedom of employee action (Spiro and Weitz 1990).

In summary, empowerment should have a positive influence on the attitudinal and behavioral responses of contact employees. The increased discretion and flexibility experienced by empowered contact employees make them feel better about their jobs, reduce the stress they feel in performing their jobs, increase their confidence in performing job-related tasks, and increase their ability to adapt to changing conditions within the service encounter. On the basis of this reasoning, we propose the following hypotheses:

H_g: An increase in the manager's use of empowerment leads to higher levels of customer-contact employee (a) self-efficacy, (b) job satisfaction, and (c) adaptability, and lower levels of customer-contact employee (d) role conflict and (e) role ambiguity.

Behavior-based evaluation. As one facet of a behavior-based control system, behavior-based evaluation involves evaluating employees on the basis of how they behave or act rather than on the basis of the measurable outcomes they achieve (Anderson and Oliver 1987). Under a behavior-based system, contact employees are evaluated and compensated on the basis of criteria such as effort, commitment, teamwork, customer orientation, friendliness, the ability to solve customer problems, and/or other behaviors that are directed toward improved service quality (Bowen and Schneider 1985; Reardon and Enis 1990). Linking evaluations to service-related behavioral criteria gives employees the incentive to engage in behaviors that are conducive to improved service quality (George 1990; Grönroos 1983). It also gives employees more control over the conditions that affect their performance evaluations (Anderson and Oliver 1987; Cravens et al. 1993). Although outcomes such as sales and profit can be influenced by several factors, contact employees are solely responsible for their behavioral responses.

Previous research supports the positive relationship between behavior-based evaluation and employee responses. For example, an emphasis on behavioral criteria has been shown to increase employees' competence (Cravens et al. 1993), self-efficacy (Gist and Mitchell 1992), and job satisfaction (Oliver and Anderson 1994). Researchers have also found that employee adaptability increases when employees perceive that rewards are the result of their own behaviors or when rewards are tied to innovative behavioral performance (Scott and Bruce 1994; Spiro and Weitz 1990). Behavior-based evaluation also reduces employees' role conflict and ambiguity because it gives employees more control over the conditions that affect their evaluations (Basu et al. 1985) and frees them from the pressures to produce measurable outcomes (Anderson and Oliver 1987).

In summary, the use of behavior-based evaluation should have a positive influence on the attitudinal and behavioral responses of customer-contact employees. By emphasizing behavioral criteria during employee performance appraisals, managers make employees responsible for their behaviors and give them more control over the conditions that affect their evaluations. These employees respond by feeling more satisfied, more competent, and more adaptive, while simul-

taneously experiencing less role stress. Accordingly, we propose the following hypotheses:

H₉: An increase in the manager's use of behavior-based employee evaluation leads to higher levels of customer-contact employee (a) self-efficacy, (b) job satisfaction, and (c) adaptability, and lower levels of customer-contact employee (d) role conflict and (e) role ambiguity.

Management commitment to service quality. Management commitment to service quality is defined as "encompassing the conscious choice of quality initiatives as operational and strategic options for the firm, and engaging in activities such as providing visible quality leadership and resources for the adoption and implementation of quality initiatives" (Ahmed and Parasuraman 1994, p. 85). It involves two components: (1) a strong, personal commitment to quality improvement and (2) a visible and active involvement in the quality-improvement process (Mohr-Jackson 1993). Although some theorists have argued that MCSQ is the single most important determinant of whether good service is delivered to customers (George 1990; Grönroos 1983), it has generated little empirical research. In perhaps the only test of the MCSQ construct, Parasuraman, Berry, and Zeithaml (1990) fail to find a direct relationship between MCSQ and service quality. A probable reason for this finding is that the relationship between MCSQ and service quality is indirect. Theory suggests that managers must first possess a personal, affective commitment to improve the firm's service quality (Mohr-Jackson 1993). Managers who exhibit this commitment are more likely to take initiatives that help the firm and its employees deliver superior quality (George 1990). Examples of these initiatives include creating more flexible processes, dedicating resources to the improvement effort, promulgating a quality-oriented vision throughout the firm, and rewarding employees for their efforts and commitment to the process (Ahmed and Parasuraman 1994; Wall and Zeynel 1991).

We postulate that empowerment and behavior-based evaluation are MCSQ-type initiatives that managers can use to influence contact employee responses during their delivery of service quality. This reasoning is consistent with Jaworski's (1988) definition of process controls (i.e., managerial attempts to influence employee behaviors and activities during implementation). Thus, we hypothesize that managers who are committed to service quality are more likely to empower their employees and emphasize behavioral criteria in employee evaluations. Hence, we propose our final hypotheses:

H₁₀: An increase in the manager's commitment to service quality leads to an increase in the manager's use of (a) empowerment and (b) behavior-based employee evaluation.

Research Method

Sample

We chose hotels as our sampling frame because the delivery of hotel services requires considerable customer contact. To initiate a sample, we contacted the marketing managers of nine hotel chains. Three chains, each offering services in the

middle to high price and quality range, agreed to participate by providing a complete mailing list of general managers' names and hotel addresses. This procedure resulted in a pool of 444 hotel units, all of which were sampled. The corporate marketing managers of the three chains mailed a letter to each general manager that explained the research and asked for their support. Approximately two weeks later, questionnaire packets were mailed to each general manager. Each packet contained one manager survey, five employee surveys, forty guest surveys, one page of instructions, and postage-paid return envelopes. Each respondent group was surveyed regarding the issues for which they would be most knowledgeable. Hotel managers were asked about their commitment to quality, their use of empowerment, and their emphasis on behavioral criteria in employee evaluations. Customer-contact employees were asked about their levels of role stress, self-efficacy, satisfaction, and adaptability. Service quality was assessed by questioning hotel guests.

Constraints imposed by the participating hotel chains prohibited us from directly contacting employees or guests. As a result, we relied on the general managers to distribute the employee and guest surveys. The general managers were

instructed to distribute the employee surveys across a broad range of customer-contact positions (e.g., front desk, food service, housekeeping, bellstaff) and to distribute the guest surveys during checkout. Approximately two months after the initial mailing, a second wave of materials was mailed. All questionnaires were returned directly to the researchers.

Of the total sample, 279 different hotel units responded by returning at least one questionnaire from a manager, employee, or customer (a total of 2389 questionnaires). Of these, only 24 employee and 35 customer surveys were unusable. Usable questionnaires were returned by 236 hotel managers (53.2% response rate), 743 employees (33.5% response rate), and 1351 customers (5.1% response rate). Because 165 hotels failed to return any type of questionnaire, we tested for nonresponse bias using a time-trend extrapolation test (Armstrong and Overton 1977). We found no differences in perceived service quality between early and late customer respondents and no differences in demographic characteristics between early and late employee or manager respondents. The demographic characteristics of employees and general managers are reported in Table 1. Employee respondents were screened to ensure that their

TABLE 1
Demographic Characteristics of Customer-Contact Employees and Managers

	Customer-Contact Employees n = 561		Managers n = 236	
	Frequency	%	Frequency	%
Sex				
Male	176	32.0	158	67.2
Female	379	68.0	77	32.8
Age (years)				
Under 20	32	5.8	0.0	0.0
20 to 30	354	63.8	65	27.8
31 to 40	83	14.9	109	46.6
41 to 50	55	9.9	44	18.8
51 to 60	22	4.0	13	5.5
Over 60	9	1.6	3	1.3
Education				
Some high school	42	7.6	1	.4
High school graduate	128	23.1	17	7.2
Some college	240	43.3	82	34.9
College graduate	119	21.5	109	46.4
Some graduate work	14	2.5	9	3.8
Graduate degree	11	2.0	17	7.2
Position				
Front desk/customer service	301	53.7		
Housekeeping	116	20.7		
Food/room service	53	9.4		
Reservations/sales	41	7.3		
Bellstaff	30	5.3		
Assistant manager	20	3.6		
Industry Experience (years)				
0 to 5			36	15.3
5 to 10			71	30.2
10 to 15			52	22.1
15 to 20			49	20.9
Over 20			27	11.5

jobs involved customer contact by asking them to report their job position on the questionnaire. Customer-contact positions were confirmed through discussions with corporate managers. The 182 employees who did not meet this criterion were dropped before we tested the measures and the hypothesized model.

Measures

To remain consistent with previous research, the measures were taken or adapted from previous studies in marketing, management, and psychology. A list of the measures is provided in Appendix B.

Management commitment to service quality. We operationalized MCSQ as the manager's affective desire to improve his or her unit's service quality. Although Parasuraman, Berry, and Zeithaml (1990) developed a four-item scale to measure MCSQ, we did not use their scale because it exhibited low reliability (average of .54) and the items measure MCSQ initiatives rather than affective commitment. Because our goal was to tap affective MCSQ, we adapted nine items from Mowday, Steers, and Porter's (1979) organizational commitment scale. Because this scale was originally designed to measure affective commitment to an organization, we reworded the items to reflect the manager's affective commitment to service quality. Managers were asked to indicate their agreement with each item through a five-point scale ranging from "strongly disagree" to "strongly agree." Higher scores reflect a stronger commitment to service quality. We were concerned that our measure might be negatively skewed, with managers reporting high MCSQ. A highly skewed distribution could attenuate the correlations between MCSQ and other variables, thus underestimating the "true" relationship. Although our measure is slightly skewed (skewness = -1.11), it is not sufficiently skewed to cause a bias in the responses.

Empowerment. Empowerment was operationalized as the extent to which managers allow employees to use their own initiative and judgment in performing their jobs. Because no measure of empowerment existed at the time of our study, we used the eight-item tolerance-of-freedom scale from the LBDQ XII, which measures the degree to which managers encourage initiative, give employees freedom, and trust employees to use their judgment (Cook et al. 1981). Hotel managers rated each item on a five-point scale ranging from "strongly disagree" to "strongly agree." Higher scores indicate that the manager uses a greater degree of empowerment in managing their employees.

Behavior-based evaluation. Behavior-based evaluation was operationalized as the extent to which managers emphasize behavioral criteria in evaluating employees. The scale we employed uses five items from the behavior-based performance scale of Bush and colleagues' (1990) study, which assess the importance of several behavioral criteria (courtesy, innovativeness, commitment to the firm and customers, and ability to resolve customer problems) in the manager's evaluation of contact employees. Managers rated this importance on a five-point scale ranging from "not at all important" to "extremely important." Higher scores indicate that

managers emphasize behavioral criteria when conducting employee evaluations.

Role conflict and ambiguity. Although the scales developed by Rizzo, House, and Lirtzman (1970) are the most commonly used measures of role conflict and ambiguity, we chose not to use them because research casts doubt on their validity (cf. McGee, Ferguson, and Seers 1989). Instead, we used the role conflict and role ambiguity scales developed by Chonko, Howell, and Bellenger (1986). The original 30-item role conflict and 36-item role ambiguity scales were designed for use in a sales context. To adapt the scales for our use, we selected scale items that could apply to any boundary-spanning employee (i.e., items pertaining to expense accounts, extending credit, and/or sales commissions were deleted). The final 12-item role conflict scale asks employees to indicate the agreement between themselves and their job expectations, supervisors, and customers on a scale ranging from "no agreement" to "complete agreement." The final 17-item role ambiguity scale asks employees to indicate how certain they are about performing job tasks on a scale ranging from "not at all certain" to "completely certain." After reversing the scale responses, higher scores reflect higher role conflict and role ambiguity.

Self-efficacy. Self-efficacy was operationalized as the extent to which employees feel confident about their job skills and abilities. The measure we used is an eight-item scale developed by Jones (1986), which is designed to measure employees' perceptions about their job skills, abilities, qualifications, and confidence. Employees rated each item on a seven-point scale ranging from "strongly disagree" to "strongly agree." Higher scores reflect higher perceived self-efficacy.

Job satisfaction. Consistent with the work of Brown and Peterson (1993), employee job satisfaction was operationalized as an eight-item measure that assesses satisfaction with eight facets of the overall job (e.g., pay, coworkers, supervisor). The measure asks employees to indicate how satisfied they are with each facet, using a five-point scale ranging from "extremely dissatisfied" to "extremely satisfied." After averaging across facets, higher scores reflect higher overall job satisfaction. Research by Peterson and Wilson (1992) suggests that many satisfaction measures are negatively skewed, with most respondents reporting high satisfaction. Our satisfaction measure is negatively skewed to a small degree (skewness = -.600), which indicates that the responses are not significantly biased.

Adaptability. Employee adaptability was operationalized as the ability of customer-contact employees to adjust their behavior to the interpersonal demands of the service encounter. To measure adaptability, we modified the 16-item adaptive selling scale developed by Spiro and Weitz (1990) by dropping 6 redundant items and changing the wording of the remaining items to eliminate the personal selling aspects within each statement. The final 10-item scale assesses contact employees' ability to adapt to changing service encounters by altering their approach toward customers. Employees indicated their agreement with each item, using a seven-point scale ranging from "strongly disagree" to "strongly

agree." Higher scores reflect a greater degree of employee adaptability.

Perceived service quality. Parasuraman, Berry, and Zeithaml (1990) define service quality as the difference between customer expectations and perceptions of service. Their SERVQUAL scale has been criticized for the use of gap scores, positively and negatively worded items, the generalizability of SERVQUAL dimensions, and the defining of a baseline standard for "good" quality (cf. Brown, Churchill, and Peter 1993; Oliver 1993a). To help alleviate these problems, researchers have shown that combining expectations and perceptions into a single measure outperforms the SERVQUAL scale in terms of both reliability and validity (cf. Babakus and Boller 1992; Brown, Churchill, and Peter 1993). Cronin and Taylor (1992) argue for the superiority of a performance-only measure of service quality on the basis that it is more efficient and generalizable than SERVQUAL. After evaluating the criticisms leveled against their approach, Parasuraman, Zeithaml, and Berry (1994, pp. 120–21) state: "Because the cumulative empirical evidence ... has not established conclusively the superiority of one measure over the other, additional research in this area is warranted." Because of these unresolved issues, choosing the "correct" measure of service quality has become somewhat problematic.

We chose to use items from the original SERVQUAL scale with two major modifications. First, research indicates that customers judge quality on the basis of specific quality-related attributes (Oliver 1993a; Taylor and Baker 1994). Because our intent is to measure only one attribute (i.e., the quality of service delivered by customer-contact employees), we restricted our measure to ten items that specifically assess employee-related aspects of service quality. Second, we combined expectations and perceptions into a single measure, as was suggested by Brown, Churchill, and Peter (1993). This modification is consistent with Silverman and Grover's (1995) findings that customers do use expectancy disconfirmation in their assessments of quality. Our measure asks hotel guests to rate each item, using a five-point scale ranging from "much worse than I expected" to "much better than I expected." Higher scores reflect higher perceived service quality.

Measure Validation

We subjected all measures to confirmatory factor analysis to assess their psychometric properties and unidimensionality. Because of sample size restrictions associated with the large number of measures used in the study, we performed separate analyses for each sample group by using three complete (nonaggregated) data sets. After we accounted for missing data, the sample sizes were 236 responses for managers, 561 responses for employees, and 1238 responses for customers. To assess discriminant validity across all three samples, the employee and customer responses were aggregated (averaged) and matched with the manager responses to create a single data set in which the cases represent hotel units rather than persons. Hotel units that did not provide at least three responses from both employees and customers were dropped. These

procedures resulted in a final sample of 97 hotel units, with each unit consisting of the matched responses from one general manager, an average of 3.37 employees, and an average of 9.38 customers. The details and results of our measure validation procedures are in Appendices A and B.

Analysis and Results

We tested our hypotheses with structural equation modeling. The procedures associated with estimating the hypothesized model and the statistical results are reported in Appendix A. Within the employee-customer interface, employee self-efficacy and job satisfaction have a positive effect on customers' perceived service quality, which supports H_1 and H_2 . These effects are fairly strong, with self-efficacy having a stronger influence on perceived quality than job satisfaction. Contrary to H_3 , employee adaptability does not have a significant effect on perceived service quality.

Within the employee-role interface, the effect of employee self-efficacy on job satisfaction is significant and negative (contrary to H_{4a}), which indicates that highly self-efficacious contact employees tend to be less satisfied with their jobs. H_{4b} also is not supported, because self-efficacy does not have a significant effect on employee adaptability. Role ambiguity appears to be the most influential construct within the employee-role interface. In accord with H_6 , role ambiguity has a significant negative effect on employee self-efficacy, job satisfaction, and adaptability. These results differ from those of H_5 , in which role conflict does not reduce employee self-efficacy, job satisfaction, or adaptability. In fact, contrary to H_{5a} , role conflict has a significant positive effect on self-efficacy. Role conflict also has a significant positive effect on role ambiguity, which supports H_7 . Overall, the results indicate that role ambiguity has a direct influence on contact employees' responses and mediates most of the effects of role conflict.

Within the manager-employee interface, overall support for H_8 and H_9 is somewhat limited. In accord with H_{8a} , empowerment increases employee self-efficacy. Contrary to H_{8d} , empowerment increases role conflict. The remaining parts of H_8 are not supported. However, the results indicate that empowerment has an indirect negative effect on employees' job satisfaction ($-.358, p < .001$) and adaptability ($-.100, p < .001$), and an indirect positive effect on role ambiguity ($.245, p < .001$). Overall, the results suggest that though empowered employees are more confident in their job skills, they experience increased conflict and ambiguity in their attempts to balance role demands.

In support of H_{9c} and H_{9d} , behavior-based evaluation increases employee adaptability and decreases employee role conflict. The remaining parts of H_9 are not supported. However, the results indicate that behavior-based evaluation has an indirect positive effect on job satisfaction ($.117, p < .01$), and an indirect negative effect on self-efficacy ($-.03, p < .05$) and role ambiguity ($-.198, p < .001$). Finally, the use of empowerment and behavior-based evaluation are dependent on MCSQ, which supports both parts of H_{10} . Although not hypothesized, the results also indicate that MCSQ increases employee job satisfaction. This relationship was

indicated by a large modification index in the LISREL analysis.

Discussion

Few studies have approached the management of service employees by examining the process simultaneously from three perspectives. By capturing perceptions and judgments across managers, employees, and customers, our study is among the first to empirically link the perceptions of all three groups in a single study. This combination of perspectives sheds light on the practical and theoretical issues involved in managing customer-contact employee responses in order to enhance the delivery of service quality. Our study also helps lay the groundwork for additional research into the complex issues associated with the management of customer-contact employees.

The Employee-Customer Interface

The importance of customer-contact employees to the delivery of service quality is underscored by the results of our study. Specifically, we found that employee self-efficacy and job satisfaction increase customers' perceived service quality. Because many services (e.g., hotels) are produced and consumed "in the factory," confident and satisfied employees are likely to perform better than apprehensive and dissatisfied employees during the service encounter, which leads to an increase in customers' perceptions of service quality. Although both responses are important, self-efficacy has a stronger effect on service quality than job satisfaction. This finding may be due to the boundary-spanning nature of the employees' positions. As contact employees become more confident in their ability to serve customers, they become more proactive and persistent, and they put forth greater effort. As a result, highly self-efficacious contact employees may be better able to handle the difficulties inherent in their jobs, which leads to better performance and higher perceived service quality.

We found no evidence of a relationship between employee adaptability and customers' perceived service quality. There are two plausible reasons for this finding. First, service encounters are situation specific, which means that the degree of adaptation that customers expect or receive varies from one service encounter to another. In encounters in which customers expect little or no adaptation, their judgments of service quality may be based on getting what they expect with no "surprises" (Solomon et al. 1985). Thus, for a hotel-based encounter, employee adaptability may not affect service quality, because customers do not expect or receive adapted service from employees. Second, the conceptualization and measurement of adaptability may not match the way customers perceive employee adaptability. As was conceptualized and measured in the literature and our study, employee adaptability occurs *across* service encounters (i.e., from one customer to another). However, customer perceptions of employee adaptability occur *within* the service encounter that they experience; therefore, customers are unlikely to notice adaptive employee responses as they occur across employee-customer encounters. As a

result, adaptation across service encounters is likely to have no effect on service quality within a single encounter.

The Employee-Role Interface

Role ambiguity appears to have the most prominent effect within the employee-role interface, because it maintains a negative relationship with employees' self-efficacy, job satisfaction, and adaptability. Role ambiguity also is exacerbated by role conflict. Although these findings are not new, they underscore the difficulties inherent in fulfilling a customer-contact position. As contact employees span the boundary between the firm and its customers, they can become frustrated and confused in their search for the best way to fulfill their multiple roles. Role ambiguity is especially menacing because of its negative relationship with employee self-efficacy and job satisfaction. As its negative effects extend into the employee-customer interface, role ambiguity can diminish employees' ability to serve customers and indirectly decrease customers' perceptions of service quality. Reducing the ambiguity associated with the customer-contact position could be one of the biggest challenges in the management of service employees.

Our finding that role conflict increases self-efficacy was not expected. However, research indicates that the emotional or physiological arousal caused by role conflict may increase employees' self-efficacy beliefs (cf. Bandura 1986). Employees who experience role conflict become emotionally aroused in their efforts to cope with conflicting role demands. As employees learn to cope with these difficulties, their self-efficacy increases. Because role conflict is an unavoidable aspect of the contact employee's job (Shamir 1980), coping with role conflict may be a prerequisite for successful role performance (Behrman and Perreault 1984). This could lead to a symbiotic relationship: role conflict increases self-efficacy, which enables the employee to better cope with conflicting role expectations (cf. Gist 1987).

Although previous research indicates that self-efficacy increases job satisfaction and adaptability, our results do not support these contentions. The lack of a self-efficacy/adaptability relationship is most likely due to the ability of other constructs in the model (i.e., role ambiguity and behavior-based evaluation) to predict adaptability better than self-efficacy. In particular, the level of role ambiguity inherent in customer-contact positions may suppress the effects of self-efficacy. Self-efficacy may lead to an increase in adaptability only when contact employees are certain about how to fulfill their role requirements. This relationship deserves further empirical investigation.

The negative relationship between self-efficacy and job satisfaction may lie in the nature of the customer-contact position, in which employees are typically underpaid, undertrained, overworked, and highly stressed (cf. Weatherly and Tansik 1993). The employees in our study also are typical of many retail service employees in that they are young, well-educated, and likely to be holding the job while attending school (see Table 1). Considering the characteristics of a customer-contact position and that most of these jobs do not require specialized skills, these employees are not likely to consider their current job as a permanent career

choice. The young, college-educated employees that fill many customer-contact positions are likely to have goals of upward mobility that simply do not match the characteristics of most boundary-spanning retail positions.

The higher-level goals to which these employees aspire may be the cause of the negative self-efficacy/job satisfaction relationship. Research has shown that self-efficacious people set higher goals for themselves, which creates a situation in which the person must accomplish more to be satisfied (Locke and Latham 1990). The relationship between goals and satisfaction creates a unique situation: "[I]f goals are set at a low level, the individual will be satisfied but unproductive, and if they are set at a high level, the individual will be productive but dissatisfied" (Locke and Latham 1990, p. 243). The job characteristics theory of Hackman and Oldham (1980) also argues that employees experience greater job satisfaction when the job has personal significance for them. As a contact employee's goals and self-efficacy increase, it is likely that the job takes on less personal significance. Thus, highly self-efficacious employees could be dissatisfied with their jobs because they aspire to higher goals. This could cause the personal significance attached to the job to decrease and further lower the level of job satisfaction.

The Manager-Employee Interface

The most striking finding within the manager-employee interface is that the use of empowerment leads to both positive and negative employee outcomes. Our findings suggest that though empowered employees gain confidence in their abilities, they also experience increased frustration (conflict) in their attempt to fulfill multiple roles at the organization's boundary. In addition to fulfilling the demands of their managers and customers, empowered employees take on added job responsibilities (Conger and Kanungo 1988). For some employees, this situation could prove to be frustrating. Although this conflict leads to an increase in self-efficacy as employees learn to cope with conflicting role demands, it also increases role ambiguity and indirectly reduces job satisfaction and adaptability. These complex relationships create a challenge for service managers to find ways to alleviate the role conflict associated with the empowerment of their contact employees.

One way to alleviate employees' role conflict may be to emphasize behavioral criteria in employee evaluations. Because employees can control their own behaviors more easily than work-related outcomes, behavior-based evaluation gives employees more control over their evaluations, thereby reducing conflict (Basu et al. 1985). Emphasizing behavioral criteria also gives contact employees the incentive to adapt to changing customer needs. Furthermore, behavior-based evaluation leads indirectly to reduced role ambiguity and increased job satisfaction. These findings suggest that the use of behavior-based evaluation complements the use of empowerment by mitigating some of its negative consequences.

Finally, our results strengthen the argument that managers must be committed to improving service quality before engaging in activities that have the potential to improve service quality (i.e., empowerment and behavior-

based evaluation). Previous research also has argued that MCSQ is the most important determinant of exceptional service quality (cf. George 1990; Grönroos 1983; Wall and Zeynel 1991). Our results lend some empirical support to these theorists, because MCSQ has an *indirect* positive effect on service quality (.105, $p < .01$). Although this connection is important, our results show it to be entirely mediated by managerial controls and employee responses, particularly employee job satisfaction. Thus, though we concur that MCSQ is vital to the delivery of good service, our findings suggest that the attitudinal and behavioral responses of customer-contact employees are the primary determinants of customers' perceptions of service quality.

Implications and Suggestions for Further Research

Before discussing managerial implications and future research suggestions, the limitations of our study should be noted. First, a cross-sectional study incorporating multiple sample groups is extremely difficult to execute. Because we were not allowed to contact employees or customers directly, we relied on the hotel managers to distribute the surveys. If the managers did not randomly distribute the surveys as instructed, an increased potential for bias exists. Despite this risk, we did not note any bias as we coded the questionnaires. We did, however, observe one consequence that could have resulted from our reliance on general managers: Most (68%) of the employee respondents were female, whereas most (67.2%) of the general managers were male. We feel that this outcome may be a reflection of the distribution of employees within the sampled chains and is not likely to bias the results of our study.

Second, though it would have been desirable to measure many of the same constructs across managers and employees as a form of cross-validation, real concerns over questionnaire length precluded our doing so. However, by assessing the model's constructs across three separate samples, we were able to examine all three interfaces simultaneously. Such an approach would seem preferable to asking a single sample (e.g., managers) to assess every construct in the model. The major drawback of our approach is that aggregating and matching sample groups limited the overall sample size to 97 hotel units. In addition, the limited sample size required that we create summed-scale indicators for each construct and fix the measurement portion of the model to account for measurement error. Using single rather than multiple indicators makes it somewhat easier to confirm each hypothesis. Likewise, the use of multiple indicators would have made the results more reliable.

Third, though the total variance explained by the model is fairly high, the model's explanatory power is limited to its included constructs. Obviously, many other constructs could affect service employee management. For example, Parasuraman, Berry, and Zeithaml (1990) discuss how employee-job fit, horizontal communication, and task standardization affect contact employees and their delivery of service quality. Likewise, we did not examine the effects of formal input controls (i.e., employee recruitment, selection, and training) or formal output controls (i.e., performance standards). Fur-

thermore, our measure of service quality does not include an assessment of the affective reactions of customers (Oliver 1993b).

Fourth, our focus on a single service industry may raise concerns about limited generalizability. However, constraining the study to a single industry eliminates problems associated with the effects of industry differences. Additionally, neither the high end (e.g., Ritz-Carlton) nor the low end (e.g., Motel 6) of the hotel services spectrum is represented in the sample. Notwithstanding these limitations, the constructs examined in our study could be applied to any industry, service, or otherwise.

Managerial Implications

Issues concerning the three interfaces of service employee management were addressed in our study. Based on our findings, we maintain that the employee-customer interface is the most important determinant of customers' perceptions of service quality. As a result, managers must find ways to increase the self-efficacy and job satisfaction of contact employees. However, these two goals may be incompatible given the characteristics of the typical customer-contact position. Self-efficacious contact employees are likely to serve customers more effectively; however, these employees may be less satisfied with the job because their goals of upward mobility do not match the characteristics of the customer-contact position. The challenges for the service manager are to (1) recruit and retain self-efficacious employees who also can be satisfied in a customer-contact position and (2) manage these employees in ways that maintain or increase their levels of self-efficacy and job satisfaction.

To meet these challenges, our results highlight the importance of four issues. First, managers must be committed to improving the firm's service quality. Put simply, managers who are personally committed to service quality are more likely to engage in activities that improve service quality. In our study, MCSQ translates into an increased use of empowerment and behavior-based evaluation and to an increase in employee job satisfaction. Although we did not hypothesize the relationship between MCSQ and job satisfaction, previous research has alluded to a possible connection (cf. Niehoff, Enz, and Grover 1990). Management commitment to service quality is important because it helps align the firm toward a common goal of superior service quality (cf. Reardon and Enis 1990). In this sense, MCSQ can become the manager's "vision" for the firm. This vision is likely to be noticed and modeled by employees, which ultimately increases employee satisfaction and service quality (cf. Niehoff, Enz, and Grover 1990).

Second, managers must recognize that the use of empowerment has both positive and negative consequences for contact employees and the firm's service quality. Because of the importance of self-efficacy in the employee-customer interface, the use of empowerment has positive outcomes for both employees and the firm's service quality. However, empowered employees can become frustrated in their attempts to balance role demands, which can lead to an increase in role conflict and many negative consequences for employees and service quality. For this reason, we caution managers to use empowerment under the appropriate

conditions. Previous research suggests that empowerment works best when the firm's culture supports its use by guiding and limiting employee actions (Bowen and Lawler 1992). If the firm's culture does not support employees for exercising discretion, empowerment is likely to be counterproductive (Kelley 1993). To support empowerment, managers should focus on behavioral criteria in evaluating contact employees. By evaluating contact employees on the basis of their behaviors (i.e., use of discretion) rather than outcomes (i.e., mistakes), behavior-based evaluation can help reduce employees' role conflict. In addition to behavioral evaluation, managers also should train employees on how to use their decision-making authority wisely. Training can help ensure that empowered employee decisions are in the best interests of the organization (Conger and Kanungo 1988).

Third, the use of behavior-based evaluation also increases employee adaptability. Although employee adaptability does not have an effect on service quality in our study, it is likely to be an important component of the service encounter for other services. One of the best ways to ensure that employees behave in certain ways is to reward them for doing so. To enhance adaptability, or other customer-oriented behaviors, managers should tie the behavior to the employee evaluation system.

Fourth, managers must find ways to reduce contact employees' role conflict and ambiguity. Although both exert a considerable negative influence on employee responses, role ambiguity appears to have the most prominent effect, particularly on self-efficacy and job satisfaction. When contact employees are unsure about how to perform their jobs, their confidence and job satisfaction decline. This translates into a decrease in customers' perceived service quality. Role ambiguity also reduces employees' ability to adapt to changes in the service encounter. Managers should make every effort to ensure that contact employees fully understand their role requirements and expectations. Although good socialization and training programs can help alleviate employees' role ambiguity (Hartline and Ferrell 1993), reducing role conflict may depend on the manager's ability to communicate with his or her employees (Reardon and Enis 1990).

Suggestions for Further Research

Our findings suggest several directions for further research. First, our study could be replicated within other services (e.g., banking, insurance, hospitals) to further examine our hypothesized relationships. For example, the relationship between employee adaptability and customers' perceived service quality may vary from one service to another. To examine this relationship, qualitative research methods may be more useful than a cross-sectional approach (cf. Bitner 1990; Kelley 1993). Additional research also is needed on the relationship between employee self-efficacy and job satisfaction. In professional services (e.g., nurses, lawyers, accountants) in which employees have chosen the service position as a career, self-efficacy may lead to an increase in job satisfaction. Likewise, the relationship between employee self-efficacy and adaptability may depend on the level of role stress experienced by employees.

Second, the mixed effects of empowerment raise an interesting question for further research: What are the conditions under which empowerment is beneficial and/or detrimental to employee management and service delivery? Conger and Kanungo (1988) argue that managers who use empowerment expect greater effort and performance from their employees. Thus, additional research could address the impact of empowerment on employee motivation, effort, and performance. The relationship between empowerment and its outcomes also may be moderated by other employee responses. For example, empowered employees may exhibit increased effort and performance when they are committed to the firm and/or share the firm's value system. Likewise, further research could investigate the importance of employee socialization and training in the effective use of empowerment (cf. Hartline and Ferrell 1993).

Third, methodological issues in aggregating and matching responses across multiple samples warrant further empirical research. Cross-validation of responses, though difficult to obtain in lengthy surveys, also could offer insights into the differences between manager and employee perceptions of the employee management process. In addition, researchers could explore whether the problems associated with the use of positively and negatively worded items (such as those in the SERVQUAL scale) extend to other constructs. In situations in which data are aggregated and matched across samples, the use of positive and negative scale items might lead to problems in estimating measurement models. Furthermore, though the "best" measure of service quality is open to debate, researchers could consider adapting the service quality measure to the service context. This would allow for more precise measurement of the employee and nonemployee elements of service quality.

Fourth, additional research is needed on the internal aspects of service quality, service implementation, and service employee management. The debate over measurement issues in service quality research ignores the important strategic and managerial problems associated with the people involved in service delivery. Further research could examine issues such as communication processes, organizational structure, management styles, employee socialization and training, or the use of internal marketing strategies. Likewise, the roles of "other" people in service delivery, such as noncontact employees and nonfocal customers, could be investigated. Studying these issues could give academicians and practitioners a stronger basis for making prescriptive statements about the management of service employees and service quality.

Appendix A

Measure Validation and Model Estimation

Measurement model. We analyzed the data by using PRELIS to create covariance matrices with pairwise deletion. These matrices were used as input to LISREL 8, in which the "completely standardized solution" was requested (Jöreskog and Sörbom 1993). In the initial stage of the analysis, several items were deleted from the scales because of nonsignificant t-values. This item-deletion procedure has

been suggested as a method for respecifying indicators that do not "work out" (Anderson and Gerbing 1988). For the remaining items, all t-values exceed 2.00, thus meeting this criterion for convergent validity (Anderson and Gerbing 1988). These results, and the construct reliabilities of each scale (Jöreskog 1971), are provided in Appendix B.

Discriminant validity was assessed in two phases. First, we performed one-at-a-time chi-square difference tests for the largest cross-construct correlations within the manager and employee samples (the Φ coefficient was constrained to 1.00). We also examined the 95% confidence interval (CI) to ensure that the correlation plus or minus two standard errors did not include the value 1.00 (Anderson and Gerbing 1988). Within the manager data, the largest correlation occurred between MCSQ/BEHAVIOR¹ ($\Phi = .461$; $\chi^2_{\text{diff}} = 143.35$, 2 df; CI = .329 to .593). Within the employee data, the largest correlations were between CONFLICT/AMBIG ($\Phi = .691$; $\chi^2_{\text{diff}} = 514.43$, 4 df; CI = .635 to .747), CONFLICT/ADAPT ($\Phi = -.539$; $\chi^2_{\text{diff}} = 391.53$, 4 df; CI = -.619 to -.459), and AMBIG/SATIS ($\Phi = -.451$; $\chi^2_{\text{diff}} = 760.46$, 4 df; CI = -.531 to -.371). In each case, the increase in the value of chi-square exceeded the critical value by a wide margin ($\alpha < .001$), and no confidence interval contained the value 1.00.

Second, we assessed discriminant validity across all three samples by aggregating and matching responses. Because the final sample size (97 units) was small in relation to the number of scale items, we averaged the items in each scale to create a summed-scale indicator for each construct. Each indicator was standardized (mean = 0, standard deviation = 1) to account for scale differences. To account for measurement error, each λ coefficient was fixed at the square root of its construct reliability, and each θ_{δ} coefficient was fixed at one minus the construct reliability (cf. Anderson and Gerbing 1988). The cross-construct correlations (Φ coefficients) resulting from this analysis are reported in Table A1.

As before, we assessed discriminant validity for the largest cross-construct correlations: CONFLICT/AMBIG ($\Phi = .700$; $\chi^2_{\text{diff}} = 89.86$, 8 df; CI = .426 to .974), SATIS/SELFEFF ($\Phi = -.641$; $\chi^2_{\text{diff}} = 64.79$, 8 df; CI = -.939 to -.343), MCSQ/BEHAVIOR ($\Phi = .632$; $\chi^2_{\text{diff}} = 54.94$, 8 df; CI = .346 to .918), and CONFLICT/SATIS ($\Phi = -.556$; $\chi^2_{\text{diff}} = 114.84$, 8 df; CI = -.828 to -.284). In each case, the increase in the value of chi-square exceeds the critical value and no confidence interval contains the value 1.00. These results provide evidence for the discriminant validity of the measures.

Structural model estimation and fit. Before estimating the hypothesized conceptual model, we computed the variance inflation factor (VIF) for each variable in order to assess multicollinearity. In this test, each variable becomes a dependent variable and is regressed on the remaining independent variables. The VIF, the inverse of $(1 - R^2)$, should be close to 1.00, which indicates little or no multicollinearity. Hair and colleagues (1995) suggest a cutoff value of 10.00 as an acceptable VIF. Among the variables in our

¹For definitions of terms, see Appendix B.

TABLE A1
Measure Correlations, Means, and Standard Deviations

Measure	Mean	SD	1	2	3	4	5	6	7	8
1. MCSQ	4.61	.429								
2. EMPOWER	4.07	.529	.43							
3. BEHAVIOR	4.41	.532	.63	.31						
4. CONFLICT	1.95	.330	-.13	.26	-.13					
5. AMBIG	1.94	.360	-.09	.25	-.16	.70				
6. SELFEFF	4.88	.743	.23	.24	.19	.16	-.07			
7. SATIS	3.83	.517	.14	-.27	.01	-.56	-.42	-.64		
8. ADAPT	5.95	.455	.38	-.02	.41	-.39	-.46	.19	.23	
9. QUALITY	3.95	.401	.07	.04	.04	-.18	-.22	.21	.09	0.0

Correlation coefficients are Φ estimates from LISREL. Coefficients of .21 or greater are significant at the $p < .10$ level, coefficients of .31 or greater are significant at the $p < .05$ level, and coefficients of .38 or greater are significant at the $p < .01$ level.

TABLE A2
Hypothesized and Final Path Models of Service Employee Management:
Structural Parameter Estimates (n = 97)

Path	Hypothesis	Hypothesized Model			Final Model		
		Coeff.	t-value	R ²	Coeff.	t-value	R ²
SELFEFF→QUALITY	H ₁ (+)	.598	2.93	.194	.448	2.54	.117
SATIS→QUALITY	H ₂ (+)	.530	2.74		.383	2.28	
ADAPT→QUALITY	H ₃ (+)	-.198	-1.45				
CONFLICT→SELFEFF	H _{5a} (-)	.383	1.92	.170	.436	2.21	.215
AMBIG→SELFEFF	H _{6a} (-)	-.381	-1.97		-.461	-2.44	
EMPOWER→SELFEFF	H _{8a} (+)	.214	1.34		.287	2.10	
BEHAVIOR→SELFEFF	H _{9a} (+)	.139	0.93				
SELFEFF→SATIS	H _{4a} (+)	-.662	-5.51	.695	-.744	-6.92	.722
CONFLICT→SATIS	H _{5b} (-)	-.255	-1.65				
AMBIG→SATIS	H _{6b} (-)	-.293	-1.97		-.474	-5.19	
EMPOWER→SATIS	H _{8b} (+)	.035	0.29				
BEHAVIOR→SATIS	H _{9b} (+)	.098	0.90				
MCSQ→SATIS	a				.212	2.37	
SELFEFF→ADAPT	H _{4b} (+)	.086	0.64	.368			.353
CONFLICT→ADAPT	H _{5c} (-)	-.138	-0.73				
AMBIG→ADAPT	H _{6c} (-)	-.282	-1.55		-.410	-3.80	
EMPOWER→ADAPT	H _{8c} (+)	-.037	-0.26				
BEHAVIOR→ADAPT	H _{9c} (+)	.372	2.77		.380	3.21	
EMPOWER→CONFLICT	H _{8d} (-)	.321	2.32	.123	.343	2.51	.141
BEHAVIOR→CONFLICT	H _{9d} (-)	-.259	-1.94		-.276	-2.11	
CONFLICT→AMBIG	H ₇ (+)	.654	6.29	.505	.714	7.61	.510
EMPOWER→AMBIG	H _{8e} (-)	.115	0.99				
BEHAVIOR→AMBIG	H _{9e} (-)	-.102	-0.94				
MCSQ→EMPOWER	H _{10a} (+)	.421	3.43	.177	.429	3.50	.184
MCSQ→BEHAVIOR	H _{10b} (+)	.667	6.17	.445	.655	6.02	.429
Goodness-of-fit statistics:		$\chi^2_{12} = 10.68, p = .557$			$\chi^2_{21} = 13.72, p = .881$		
		GFI = .974			GFI = .968		
		AGFI = .904			AGFI = .931		
		CFI = 1.00			CFI = 1.00		
		PNFI = .316			PNFI = .544		
		RMSR = .032			RMSR = .045		
		Overall R ² = .504			Overall R ² = .532		

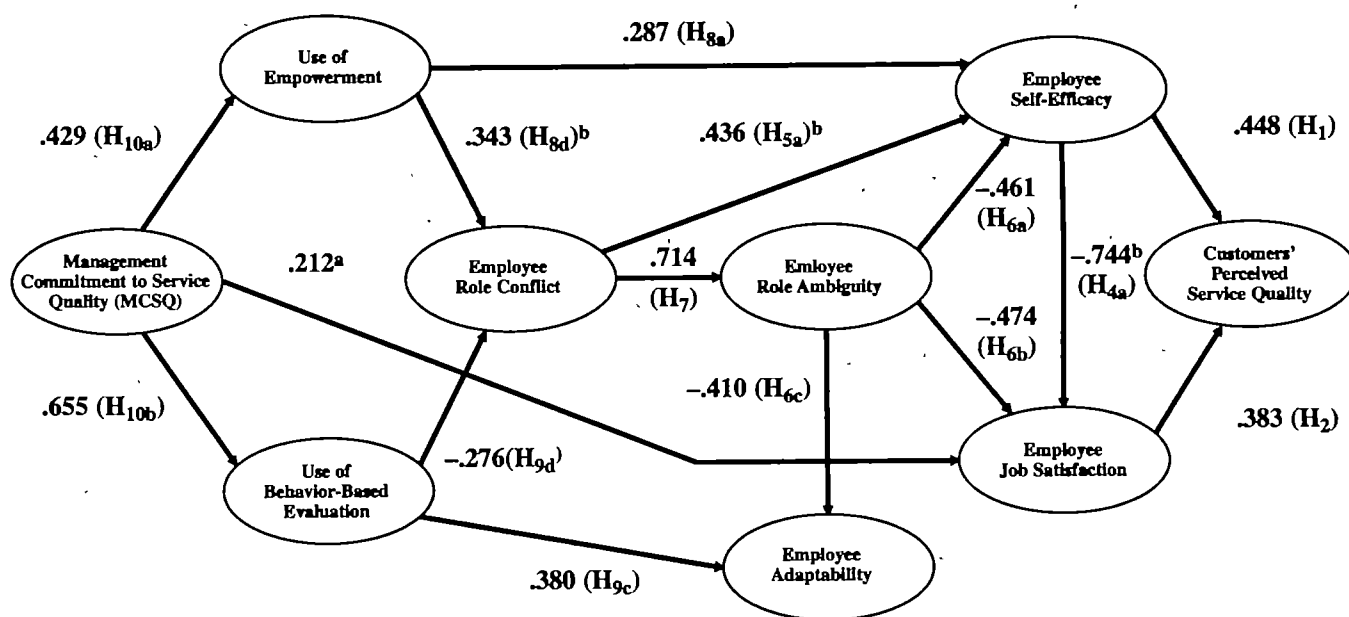
*Not hypothesized.

study, the highest VIF occurs for SATIS ($VIF = 1.97$, $R^2 = .492$), which indicates that the effect of multicollinearity among the variables is negligible.

We tested the hypothesized model by using LISREL 8 (Jöreskog and Sörbom 1993). Hypothesis testing was accomplished by examining the completely standardized parameter estimates and their t-values. Estimating the hypothesized model produced the following statistics: $\chi^2_{12} = 10.68$ ($p = .557$), goodness-of-fit index ($GFI = .974$), adjusted goodness-of-fit index ($AGFI = .904$), comparative fit index ($CFI = 1.00$), and parsimonious normed fit index ($PNFI = .316$). The structural parameter estimates from the hypothesized model are reported in Table A2. Because many of the paths were not significant, we dropped these paths to create a more parsimonious model. Model trimming is appropriate in exploratory research if it is not used as a sub-

stitute for a priori hypothesis development (Anderson and Gerbing 1988). Although ADAPT did not have a significant effect on QUALITY, we retained ADAPT in the trimmed model because of its theoretical importance to service delivery. After reestimating the model, the modification indices revealed that one new path ($MCSQ \rightarrow SATIS$) and two original paths ($AMBIG \rightarrow ADAPT$, $EMPOWER \rightarrow SELF EFF$) should be set free. Estimating the final, trimmed model produced the following statistics: $\chi^2_{21} = 13.72$ ($p = .881$), $GFI = .968$, $AGFI = .931$, $CFI = 1.00$, and $PNFI = .544$. The structural estimates from the trimmed model are reported in Table A2. A comparison of the AGFIs and PNFI from both models indicates that the final model is more parsimonious and fits somewhat better than the hypothesized model. In addition, the overall R^2 for the trimmed model is good at .532. The final path model is shown in Figure A1.

FIGURE A1
Service Employee Management: A Path Diagram of Structural Relationships



^aThis path was not hypothesized.

^bThe signs of these paths are not as hypothesized.

APPENDIX B

Confirmatory Factor Analysis Results

Manager Data ($n = 236$).

Fit Statistics: $\chi^2_{74} = 156.80$, $p = .000$; $GFI = .912$; $AGFI = .876$; $CFI = .919$; $RMSR$ (root mean square residual) = .025

Management Commitment to Service Quality (MCSQ)^a
(Cronbach's $\alpha = .86$; Construct reliability = .86)

	Factor Loading	t-value
MQ1 I feel strongly about improving the quality of my organization's services	.675	11.09
MQ2 I enjoy discussing quality-related issues with people in my organization	.809	14.24
MQ3 I gain a sense of personal accomplishment in providing quality services to my customers	.658	10.74
MQ4 I explain to all of my employees the importance of providing high quality services to our customers	b	
MQ5 I often discuss quality-related issues with people outside of my organization	b	

		Factor Loading	t-value
MQ6	Providing high quality services to our customers should be the number one priority of my organization	b	
MQ7	I am willing to put in a great deal of effort beyond that normally expected in order to help my organization deliver high quality services to our customers	.694	11.51
MQ8	The way I feel about quality is very similar to the way my organization feels about quality	.660	10.79
MQ9	I really care about the quality of my organization's services	.774	13.36

Empowerment (EMPOWER)^c (Cronbach's α = .71; Construct reliability = .71)

EM1	I allow employees complete freedom in their work	b	
EM2	I permit employees to use their own judgment in solving problems	.592	8.27
EM3	I encourage initiative in my employees	.668	9.37
EM4	I let employees do their work the way they think best	b	
EM5	I assign tasks, then let employees handle them	b	
EM6	I turn employees loose on a job, and let them go to it	b	
EM7	I allow employees a high degree of initiative	.651	9.14
EM8	I trust employees to exercise good judgment	.533	7.37

Behavior-Based Evaluation (BEHAVIOR)^d (Cronbach's α = .74; Construct reliability = .75)

How important is each of the following factors when you evaluate the performance of customer-contact employees?

BB1	A track record of courteous service to customers	b	
BB2	The ability to resolve customer complaints or service problems in an efficient manner	.808	12.50
BB3	The ability to innovatively deal with unique situations and/or meet customer needs	.616	9.21
BB4	The employee's commitment to the organization	.545	8.00
BB5	The employee's commitment to customers	.622	9.31

Employee Data (n = 561)

Fit Statistics: $\chi^2_{892} = 3673.47$, $p = .000$; GFI = .730; AGFI = .700; CFI = .722; RMSR = .100

Employee Role Conflict (CONFLICT)^e

(Cronbach's α = .83; Construct reliability = .83)

How much agreement is there between you and your job on

RC1	The amount of work you are expected to do and the amount of work you actually do (–) ^f	.461	10.79
RC2	The number of customers you are expected to serve and the number of customers you actually serve (–)	.491	11.58
RC3	The number of non-work tasks you are expected to perform and the number of non-work tasks you actually perform (–)	.436	10.13
RC4	The amount of leisure time you expect to have and the amount of leisure time you actually have (–)	.361	8.26

How much agreement is there between you and your supervisor on

RC5	How often you should report to your supervisor (–)	.568	13.76
RC6	How far you should bend the rules to satisfy customers (–)	.502	11.90
RC7	How much service you should provide to customers (–)	.615	15.16
RC8	How much authority you have in making decisions (–)	.537	12.87

How much agreement is there between you and your customers on

RC9	Your performance in serving customer needs (–)	.677	17.15
RC10	How much service you should provide to customers (–)	.672	16.97
RC11	How you resolve customer complaints (–)	.637	15.84
RC12	How far you should bend the rules to satisfy customers (–)	.487	11.47

Employee Role Ambiguity (AMBIG)^g (Cronbach's α = .91; Construct reliability = .91)

How certain are you about

RA1	How best to serve customers (–)	.578	14.48
RA2	How much time you should spend on various aspects of your job (–)	.631	16.13
RA3	How to resolve customer complaints(–)	.567	14.13
RA4	How to fill out required paperwork (–)	.483	11.72
RA5	How to plan and organize your daily work activities (–)	.604	15.28
RA6	How to handle unusual problems or situations (–)	.669	17.39
RA7	Where to get assistance in doing your job (–)	.514	12.58
RA8	The extent to which you can bend the rules to satisfy customers (–)	.527	12.97

	Factor Loading	t-value
RA9 The extent to which you can make decisions without your supervisor's approval (–)	.579	14.49
RA10 Your company's rules and regulations (–)	.616	15.64
RA11 How your supervisor will evaluate your performance (–)	.697	18.35
RA12 How satisfied your supervisor is with your performance (–)	.685	17.92
RA13 The aspects of your work-related training (–)	.686	17.97
RA14 The factors that determine your promotion and advancement (–)	.610	15.45
RA15 How your supervisor expects you to allocate your time (–)	.709	18.79
RA16 How satisfied your customers are with your performance (–)	.624	15.91
RA17 What your customers expect of you in performing your job (–)	.645	16.59

Employee Self-Efficacy (SELFEFF)^h (Cronbach's α = .67; Construct reliability = .71)

SE1 My job is well within the scope of my abilities	b	
SE2 I did not experience any problems in adjusting to work at this organization	b	
SE3 I feel that I am overqualified for the job I am doing	.766	18.04
SE4 I have all the technical knowledge I need to deal with my job, all I need now is practical experience	b	
SE5 I feel confident that my skills and abilities equal or exceed those of my colleagues	.455	10.15
SE6 My past experiences and accomplishments increase my confidence that I will be able to perform successfully in this organization	b	
SE7 I could have handled a more challenging job than the one I am doing	.799	18.86
SE8 Professionally speaking, my job exactly satisfies my expectations of myself (–)	.399	8.80

Employee Job Satisfaction (SATIS)ⁱ (Cronbach's α = .82; Construct reliability = .82)

JS1 Your overall job	.632	15.55
JS2 Your fellow workers	b	
JS3 Your supervisor(s)	.615	15.04
JS4 Your organization's policies	.753	19.58
JS5 The support provided by your organization	.825	22.21
JS6 Your salary or wages	b	
JS7 Your opportunities for advancement with this organization	.638	15.74
JS8 Your organization's customers	b	

Employee Adaptability (ADAPT)^j (Cronbach's α = .77; Construct reliability = .77)

AD1 Every customer requires a unique approach	b	
AD2 When I feel that my approach is not working, I can easily change to another approach	.589	13.75
AD3 I like to experiment with different approaches	.503	11.45
AD4 I don't change my approach from one customer to another (–)	b	
AD5 I am very sensitive to the needs of my customers	.586	13.68
AD6 I find it difficult to adapt my style to certain customers (–)	b	
AD7 I vary my approach from situation to situation	.572	13.28
AD8 I try to understand how one customer differs from another	.547	12.62
AD9 I feel confident that I can effectively change my approach when necessary	.764	18.99
AD10 I treat all customers pretty much the same (–)	b	

Customer Data (n = 1238)

Fit Statistics: χ^2_{35} = 450.29, p = .000; GFI = .931; AGFI = .892; CFI = .969; RMSR = .015

Customers' Perceived Service Quality (QUALITY)^k

(Cronbach's α = .97; Construct reliability = .97)

Please rate the quality of service you received in each of the following areas:

SQ1 Receiving prompt service from our employees	.831	35.80
SQ2 Never being too busy to respond to your requests	.853	37.36
SQ3 Employee behaviors that instill confidence in you	.882	39.41
SQ4 The safety you feel in transactions with our employees	.856	37.50
SQ5 The courteousness of our employees	.840	36.44
SQ6 The ability of our employees to answer your questions	.846	36.87
SQ7 The individual attention you received from us	.890	40.03
SQ8 The personal attention you received from our employees	.906	41.21
SQ9 Having your best interests at heart	.910	41.55
SQ10 The ability of our employees to understand your specific needs	.851	37.15

^aA nine-item scale adapted from the organizational commitment scale developed by Mowday, Steers, and Porter (1979). Items from the original scale were reworded to reflect the manager's affective commitment to service quality.

^bItem was dropped during confirmatory factor analysis because of a nonsignificant t-value.

^aThe eight-item Tolerance of Freedom scale from the LBDQ XII (Cook et al. 1981).

^dA five-item scale adapted from the behavior-based performance scale of Bush and colleagues (1990).

^eA 12-item scale adapted from the role conflict scale of Chonko, Howell, and Bellenger (1986)

^fNegative signs (–) indicate reverse scoring.

^gA 17-item scale adapted from the role ambiguity scale of Chonko, Howell, and Bellenger (1986).

^hThe eight-item self-efficacy scale developed by Jones (1988).

ⁱAn eight-item measure designed to assess employee job satisfaction across eight facets of the overall job. The selection of facets for the scale was based primarily on the research of Brown and Peterson (1993) and Churchill, Ford, and Walker (1974).

^jA ten-item scale adapted from the adaptive selling scale developed by Spiro and Weitz (1990).

^kA ten-item scale based on the original SERVQUAL scale (Parasuraman, Berry, and Zeithaml 1990). We restricted our measure to those items that pertained specifically to employee-related aspects of service quality. The scale was also modified to combine expectations and perceptions into a single measure, as per the suggestion of Brown, Churchill, and Peter (1993).

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Company Advertising With a Social Dimension: The Role of Noneconomic Criteria

The author examines company advertising campaigns with social dimensions and compares them to matched standard, or nonsocial, campaigns. The author investigates the managers' objectives for the campaigns with social dimensions, examines the processes creating them, and develops a model for explaining success factors. Most campaigns have mixed objectives, both economic and social, which have many implications. Although these campaigns are not particularly effective in achieving traditional economic objectives, such as increasing sales, they are highly effective in achieving company-oriented objectives, such as motivating the work force or communicating the essence of the company's mission. Drawing on research and theory related to organizational identification, the author discusses causal mechanisms underlying social campaigns' effectiveness with company-oriented objectives and presents directions for further research. Ethical considerations and managerial implications are discussed, as well.

In the pages of an elegant fashion magazine, a fashion manufacturer's advertisement uses people with physical disabilities as models.

During a prime-time network television commercial, an athletic equipment manufacturer associates its product with an attempt to build awareness of a serious social problem.

Broadcast during drive-time radio, a local retailer advertises a promise to contribute to a local charity each time a certain product is purchased.

Company advertising with social dimensions is on the rise as companies affiliate with causes such as AIDS, breast cancer, domestic violence, drug prevention, gay rights, literacy, mental and physical disabilities, racial harmony, rape prevention, and wetlands and wildlife preservation (e.g., Arnott 1994; Benjamin 1994; Carringer 1994; Garfield 1993, 1994; Miller 1992, 1993; Zbar 1993). Advertisements associated with these topics are variously referred to as *cause marketing*, *cause-related marketing*, *corporate issue promotion*, *corporate social marketing*, *social issues marketing*, *mission marketing*, or *passion branding* (Andreasen 1996; Arnott 1994; Bloom, Hussein, and Szykman 1995; Duncan 1995; Varadarajan and Menon 1988).

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From 1989 to 1992, cause marketing grew from \$100 million in corporate expenditures to \$254 million (Andreasen 1996). More recent figures estimate it to be as high as \$2 billion (Smith 1994). A nationwide survey by Cone/Roper found that cause marketing is well received among consumers (Carringer 1994). For example, 64% of American adults surveyed said they believe that cause marketing should be a standard part of a company's activities; 78% said they would be more likely to buy a product associated with a cause that they care about; and 84% said cause marketing creates a positive company image.

Despite their reception by marketing professionals and consumers, company advertisements with social dimensions have been among the most controversial of marketing approaches. They have been heralded as marketing's greatest contribution to society (e.g., Smith 1994; Smith and Alcorn 1991) and lambasted as marketing's most unabashed exploitation (e.g., Garfield 1993, 1994). Many have conjectured about managers' objectives and motivations for these marketing programs and made inferences about how they come about, but no one has investigated them directly. Do these approaches represent marketing as it has always been practiced, in service of economic goals, or do noneconomic criteria enter in?

I examine advertising that has a social dimension. The first objective is to understand the objectives that managers in companies and their marketing partners have for these advertisements in order to see if, in fact, noneconomic criteria enter into the advertising decisions. If they do, in what ways do they enter and to what extent? A second objective is to understand how managers approach, create, execute, and evaluate advertisements that have a social dimension—whatever the objective. A third and longer-term objective of this inquiry is to contribute to a research stream that involves

broadening the understanding of the use of noneconomic criteria in marketing decisions.

Background

Consumer Research

Consumer research on company advertising with a social dimension takes two directions—one assesses the effectiveness of the advertising and its various aspects on the basis of consumer response and the other explores consumer processing of social ideas in advertising. Company advertising with a social dimension appears to be well received among consumers. A majority of consumers view it favorably, and it results in positive purchase intentions among a segment of consumers (Ross, Patterson, and Stutts 1992; Ross, Stutts, and Patterson 1991; Smith and Alcorn 1991). Various aspects and tactics have been investigated. For example, there is some evidence that consumers prefer local causes to national ones (Ross, Stutts, and Patterson 1991; Smith and Alcorn 1991) and disaster relief or curing diseases to other causes (Ellen, Mohr, and Webb 1996; Ross, Stutts, and Patterson 1991). This type of advertising appears to be more effective with luxury products than practical ones, perhaps because the donation offsets feelings of guilt associated with the purchase and consumption of luxury products (Strahilevitz and Myers 1995). Consumers perceive less exploitation and more benefit to the cause when donations are larger (Dahl and Lavack 1995). Moreover, they respond the most positively when the tactics used prompt attributions of genuine altruism on the part of the firm; for example, donations of products are more likely to prompt attributions of altruism than cash donations (Ellen, Mohr, and Webb 1996).

Research suggests that social dimensions may have unique effects on consumer processing. Social ideas have been differentiated from product messages on several dimensions, and it has been proposed that the dimensions characterizing social ideas may negatively affect attention and cognition (Manrai and Gardner 1992). In contrast, when combined with a message about a service, social ideas have been found to increase people's motivation to process the message. They also increased perceptions of the strength of the argument for the service, especially under conditions of moderate perceived involvement and ambiguous service arguments (Berger, Cunningham, and Kozinets 1996).

Managerial Research

Consumer research is scant, but there is even far less managerial research. With a few exceptions, what exists are largely attempts to describe variations of advertising with a social dimension—cause marketing versus mission marketing, cause-related marketing versus corporate issue promotion, and so on (e.g., Andreasen 1996; Bloom, Hussein, and Szykman 1995; Duncan 1995). In a seminal conceptual study, Varadarajan and Menon (1988) identify important managerial dimensions of cause-related marketing and illustrate their effective use. In a survey of 25 company marketing managers and 23 fund-raising managers at nonprofit organizations, it is shown that both groups view cause-related marketing positively, which offers benefits to both

businesses and nonprofit organizations (Barnes 1991). Guidance has been offered to nonprofit managers regarding protecting their interests in cause marketing ventures (Andreasen 1996; Cunningham 1996; Wagner and Thompson 1994). In summary, the managerial research has been based largely on accounts of practice from secondary sources external to the firms themselves and has generally not investigated *why* managers did what they did, what their perceptions or rationales were, or what the processes that led to the advertising with social dimensions were.

Methods

Selection of Method

When the goal is understanding what the meanings are to actors rather than predicting what their behavior will be—or in philosophy of social science terms, the *action versus behavior* distinction (Braybrooke 1965)—qualitative methods are often the most appropriate tact.¹ More specific, field-based approaches and elite interviews are particularly useful when the research objective is to understand complex interactions, diffuse processes, and often tacit perceptions, beliefs, and values, especially when the researcher cannot be sure what interpretation, code, norm, affect, or rule is guiding the actors (Dexter 1970; Fielding and Fielding 1986; Marshall and Rossman 1989; Miles and Huberman 1994; Strauss 1990). In the social sciences literature, the term *elite interviews* is commonly used to refer to interviews of decision makers as opposed to consumers, an electorate, or a mass population (Dexter 1970). Elite interviewing is different from highly structured survey research interviews. The latter are useful for predicting behavior and generalizing to populations about behavior; the former is designed to ascertain the decision makers' understanding. For all their inherent benefits, behavioral reports, as produced by survey research, often disregard the meaning to the actors. A researcher may infer meaning from behavior, but when he or she wants to know what the actor thinks is happening, elite interviewing often provides a more direct and useful tool. Elite interviewing stresses the informant's definition of the situation, encourages the informant to structure the account of the situation, and allows the informant to reveal his or her notions of what is relevant (Dexter 1970; King 1994; McCracken 1988; Schwartzman 1993). In short, the objectives of the research drive the methodology.

Selection of Campaigns

The criterion for selecting campaigns with social dimensions was that multiple external sources had perceived and commented on what appeared to be a social dimension.

¹Widely used in the social sciences, qualitative methods also have been used to great profit in marketing and consumer behavior studies (e.g., Arnould and Price 1993; Belk, Wallendorf, and Sherry 1989; Bloom 1987; Dougherty 1990; Drumwright 1994; Hill and Stamey 1990; Kohli and Jaworski 1990; Parasuraman, Zeithaml, and Berry 1985; Workman 1993). When previous research is scant, qualitative methods are often essential to generate hypotheses and ultimately theory (Glaser and Strauss 1967; King, Keohane, and Verba 1994; Kitzner 1994; Strauss 1990).

TABLE 1
Annual Revenues and Billings

(\$000,000)	Company Revenues	Advertising Agency Billings	Public Relations/Talent Firm Revenues
Greater than \$1,000	4	0	0
\$501-\$1,000	2	1	0
\$101-\$500	2	2	0
\$50-\$100	2	2	0
Less than \$50	1	3	3
	—	—	—
Total	11	8	3

TABLE 2
Configuration of Partnerships

	Social Campaigns	Standard Campaigns
Configuration of Partnerships		
Company/advertising agency	6	4
Company/advertising agency/ public relations agency	2	2
Company/talent agency	1	1
Company in-house	2	4

Each campaign had received multiple write-ups and had been lauded for its social dimension, criticized for exploiting a social cause, or both. Companies sponsoring the campaigns were contacted, and one to three telephone interviews were conducted with persons who had been involved in the processes resulting in the campaigns. This led to an initial set of personal interviews within the company. During the interviews, a technique known as *snowballing* (Moriarty 1983) was used to identify other informants. That is, informants were asked to identify other people within the company or within any organization that had served as consultants or "marketing partners" who had been involved in the advertising processes. Company informants also were asked to identify a campaign without a social dimension (referred to as a *standard campaign*) for the same products or brands that had been used within the same general time period and was generally comparable in expenditure, geographic scope, and persons involved. The interviewing continued until most, if not all, of the people identified as playing key roles had been interviewed.

Eleven companies agreed to serve as interview sites. Nine of the companies have headquarters in the United States in seven states, and two are in Western Europe in two different countries, though their products are sold widely in the United States. Eleven firms were marketing partners working with the companies: eight advertising agencies, two public relations agencies, and one talent agency. Revenue data are shown in Table 1, and the configuration of the partnerships is shown in Table 2.

Twenty-two campaigns were examined: 11 with social dimensions and 11 standard campaigns. Three of the cam-

paigns with a social dimension and three of the standard campaigns were transnational, appearing in the United States and in multiple countries on at least one other continent. The remainder of the campaigns appeared in the United States. The range of media expenditures was \$50,000 to \$7 million for the social campaigns and \$100,000 to \$6 million for the standard campaigns. Of the 11 social campaigns, 10 were initiated between July, 1991 and May, 1994. One campaign ran from 1985 to 1991. The interviews were conducted between January, 1993 and September, 1995.

Development of Interview Protocol

The interview protocol was developed in consultation with 15 professors and practitioners, who have substantive or methodological expertise: 2 company marketing executives, 3 advertising agency executives, 4 marketing professors, 4 advertising professors, 1 prominent media advertising critic, and 1 social scientist specializing in qualitative research methods. The interview protocol was pretested in personal interviews with a company marketing executive and an advertising agency executive, both of whom had been a part of social advertising campaigns that were not included in the sample. The interview protocol is shown in Appendix A. In keeping with accepted practice for elite interviewing, most questions were broad and open-ended to enable informants to define the situation. The interview protocol was designed to prompt informants to engage in what Wallendorf and Brucks (1993, p. 341) call "guided introspection" and was constructed to elicit particularistic data from informants, which are reports of experiences associated with a unique context in time and place.

Data Collection and Analysis

All but one of the interviews were conducted in person. The typical interview lasted about an hour; however, some lasted more than two hours. The interviews were audiotaped and then transcribed. Of the 63 people interviewed, 38 were from companies sponsoring advertising with a social dimension (hereafter referred to as *company informants*) and 25 represented marketing partners (hereafter referred to as *agency informants*). Fifty of the informants were involved in both the social and the standard campaigns; 12 informants were involved only in social campaigns, and 1 was involved only with a standard campaign.² The job assignments of informants are shown in Table 3.

Anonymity for the companies and informants was insisted on as a condition of the interviews. Anonymity brings obvious disadvantages, but it helps mitigate biases and demand effects related to social desirability and posturing. Widely used in the social sciences, anonymity has been used often in qualitative, company-based marketing research (e.g., Arnould and Price 1993; Dougherty 1990, 1992; Drumwright 1994; Workman 1993).

²Of the 12 informants that were involved only in social campaigns, 6 were agency informants: 5 were retained by companies that prepared their standard campaigns in-house, and 1 joined the agency after the standard campaign but before the social campaign. The person involved only in a nonsocial campaign was not employed by the company at the time of the social campaign.

TABLE 3
Job Assignments of Informants

Job Assignment	Company Informants		
	Total	Standard Campaigns	Social Campaigns
CEO/COO	6 ^a	6	6
Advertising	10	10	10
Marketing/Brand Management	9	9	8
Public Relations	7	3	7
Research	4	4	4
Philanthropy	1	0	1
Assistant to President	1	0	1
Total	38	32	37

Agency Informants			
Account Management	15	11	15
Creative/Production	10	8	10
Total	25	19	25

^aTo be read: Of the six CEOs or COOs in the sample, all six were involved in both standard and social campaigns.

Data also were collected from seven other sources to enable triangulation:

1. internal documents (e.g., reports, memos, briefing papers),
2. communications between the company and its marketing partners (e.g., requests for proposals, proposals, bids),
3. internal publications (e.g., employee magazines, newsletters),
4. documents for external distribution (e.g., press releases, brochures),
5. articles from newspapers and magazines,
6. videos of broadcast news stories, and
7. videos of presentations by executives (e.g., press conferences, speeches, presentations at sales meetings).

The data were systematically and intensively analyzed through standard procedures for qualitative data analysis (Spiggle 1994; Strauss 1990).³

³The analysis involved several steps. Initially, the transcripts of interviews and all documents related to a given campaign were carefully reviewed, and a summary memo was written about each. Next, in a phase known as *open coding*, the interview transcripts and related documents were scrutinized line by line and paragraph by paragraph to suggest initial categories or themes. These themes were recorded in a series of analytical memos. Then axial coding was done. The transcripts and other materials were scrutinized repeatedly to consider each of the themes across several cases to assess the fit of each theme to the data. At least one analytical memo was written about each of the cross-case themes. When about three-fourths of the data had been collected, a major analytical memo was written in an attempt to bring together the themes and suggest other areas for investigation. Then, through a stage Strauss (1990) calls *selective coding*, the data were scrutinized once again to refine the themes and identify the findings for each.

Reliability

After the analysis was completed, two experts (faculty colleagues) were asked to serve as external auditors to ensure that the assessments and interpretations of the data were accurate and reliable. Because there were hundreds of pages of interview transcripts, documents, and field notes, the auditors reviewed the data from five campaigns. One campaign was selected at random from each of the four types of social campaigns identified subsequently and a fifth campaign was selected at random. The auditors were asked to review the materials and code the data for the dimensions reported in Table 4, as well as for the effectiveness of the campaigns as perceived by informants. The coding agreement was 98.4%. The auditors then were asked to read this manuscript and note disagreements or questions concerning any conclusions I drew or any quotations that did not fairly represent attitudes of other informants. In the few instances that this occurred, the statement or quotation was removed from the manuscript.

Limitations

The research method used has well-known limitations, but an attempt was made to mitigate their effects. For example, findings based on the retrospective accounts of informants can be distorted or biased. To combat this, multiple informants were interviewed in person regarding each campaign, and findings were based on reports substantiated by multiple informants. Informants' reports were compared with information from other data sources, such as internal documents, to check for accuracy and consistency. Some judgment is inevitably required by the analyst (Dexter 1970), but as was described previously, auditors reviewed the data and my conclusions. Another way to check subjectivity is for the author to try to be as transparent as possible; that is, I demonstrate as clearly as possible how I came to certain conclusions (Golden-Biddle and Locke 1993). Extensive use of quotations adds transparency in addition to depth of understanding. When used, quotations are representative of what was expressed by many informants, unless otherwise noted. Finally, the organizations chosen may not be representative of the total population, but they represent firms that are varied on many dimensions, including industry, size, and geographic location. This is in keeping with one of the goals of qualitative research, which is to portray the range and depth of the phenomena, which, in turn, is important to developing theory (Bonoma 1985; Eisenhardt 1989).

Findings

There is not a company in the U.S. or the world that would spend money on advertising in a way that is not economic. The only reason, *absolutely the only reason*, that money is spent on advertising is to move people toward economic payoffs for the product and the company (PI 5).⁴

⁴"PI 5" indicates that this quote was from a "Preliminary Informant." This person was the fifth of the 15 marketing and advertising specialists conferred with as a part of the pretest phase. He is a marketing manager who had been actively involved in creating advertising with a social dimension for his company.

TABLE 4
Comparison of Campaigns

Standard Campaigns		Campaigns With a Social Dimension			
		Economic	Mixed		Noneconomic
			(Mixed-economic)	(Mixed-noneconomic)	
Number of campaigns	11	2	3	5	1
Economic Objective	Sales and/or image	Sales and image	Sales and Image	Image and company-oriented	Not applicable
Initiation	Varies: Company (if driven by price promotions, new product features, or product line extensions) Agency (if image-oriented)	Agency	Agency ^a	Company ^b	Company
CEO Involvement	Usual amount	Usual amount	More than usual	More than usual	More than usual
Creative and Production Processes	Standard	More complex, often longer	More complex, often longer	More complex, often longer	More complex, often longer
Resistance	Varies (typically greater for image-oriented advertising)	Likely	Likely	Less likely	Unlikely
Evaluation	Usual advertising and sales measures	Usual advertising and sales measures	Usual advertising and sales measures, some public relations measures	Qualitative measures; public relations measures; some cause-related measures	Cause-related measures
Time Commitment	Short to medium	Short	Short	Long to indefinite	Indefinite
Employee Involvement	Not applicable	None	Low (e.g., informal and at the initiative of individuals)	Moderate (e.g. cause-related speaker, workshops) to high (e.g., paid time off for volunteering) ^c	High
Evangelism for cause	Not applicable	None	Low (e.g., informal and at the initiative of individuals)	Moderate (e.g., venue for consumer involvement) to high (e.g., personal petitions to vendors on behalf of cause)	High

^aOne campaign was initiated by a company in-house agency.

^bOne campaign was the result of a collaborative brainstorming session involving both the company and the agency.

^cOne campaign was an exception, because it had a low level of employee involvement.

And instead of making a product statement in our advertising, we felt that we could make a social statement ... If we could change the way Americans dressed, why couldn't we change the way they think about a social issue? (CI 11).⁵

Advertising Objectives

Most of the 15 marketing and advertising specialists with whom I conferred in the pretest phase predicted that the findings would confirm the position of the first manager quoted (PI 5)—the objectives of advertisements would be solely economic. A response such as the second manager's would be rare and come only from an errant "do-gooder." The findings of this research are to the contrary; noneconomic objectives do enter into advertising campaigns. Perhaps the more interesting finding is that advertising campaigns in which a social concern plays a role are not fundamentally all alike; they vary in important and systematic ways on the basis of their objectives. Because of this, campaigns that contain a social dimension can be meaningfully categorized and labeled by their objectives: Some are solely economic (hereafter termed *Economic*); some are purely social (hereafter termed *Noneconomic*); and some have mixed economic and social objectives (hereafter termed *Mixed*). Surprisingly, only two campaigns fell into the Economic category. Only one was Noneconomic. The remaining eight were in the Mixed category.

Economic campaigns. Similar to standard campaigns, Economic campaigns had objectives that involved increasing sales, building brand equity, or enhancing image. There was no social agenda, despite the social component.

I'll tell you truthfully that the reason we did the [cause] campaign is because it was good business. We have absolutely no charter to feature any [cause] ever. We don't think like that. We have limited media dollars. We have a very competitive category that is very traditional. We leave that [social responsibility] for McDonald's (AI 24).⁶

Informants talked about how the socially conscious aspect of the campaign was simply a search for "breakthrough advertising," for "category breakers," for "out-of-category" campaigns.

I was bringing in agency after agency to come up with that one campaign that would separate us from the pack.... You have to look for what we call the "category breaker" We're still looking for that magical thing.... We think that this social cause and concern is a category breaker. (CI 55)

Economic campaigns often sought to reach a "higher level" of meaning for the product or the brand. Said one company informant, "We were trying to find some way of differentiating our brand at a higher level; we never did figure out what that higher level was" (CI 18). An objective of enhancing image and building brand equity might usually be considered a long-term goal, but in these campaigns, it had

a short-term orientation with an expectation that the advertisements would produce immediate, bottom-line results.

It should not be inferred that there are not substantial positive benefits to society from social campaigns with solely economic objectives.⁷ Both Economic campaigns were heralded as highly positive by supporters of the causes, but the creators of these campaigns insisted that these positive effects were unintended and largely unanticipated by-products, accidents, or serendipitous effects.

[B]eing a creative run agency, we also just try to do things that are cool.... Did we decide to do [it] because it was the right thing to do socially? No, we decided to do it because it was a cool way to show [the theme] and be authentic.... So again, it was more of a by-product. And it happened to work out (AI 40).

Noneconomic campaigns. At the other extreme from Economic campaigns were campaigns with objectives related solely to a social agenda—to provide individual benefits, societal benefits, or both. At first blush, a campaign without significant economic objectives seems implausible. The Noneconomic campaign, however, was a part of a portfolio of campaigns, some of which had economic objectives. Although there were benefits to the company resulting from the Noneconomic campaign, they were not part of the objectives. The most senior marketing executive of this company said that one of her primary challenges was "to know when to pull rank on social issues" and blend in more economic objectives (CI 50). This is understandable given the company's philosophy.

We aspire to be a values-led company.... We do believe that business is arguably in partnership with the not-for-profit sector, and that community action is the way to transform the world.... [Business] should be, as far as we're concerned, the real engine for progressive social change on the face of the planet ... we are a business which will campaign for social change; we are a business which will raise issues; we are a business which will fund initiatives on [cause 1], [cause 2], [cause 3] (CI 47).

Mixed campaigns. It is interesting that most of the campaigns had both economic and social objectives. Sometimes there was a happy coexistence. As one company informant expounded,

The premise is [that] to be a great company, you've got to be excellent, both in the products you create and also in the role you play in society (CI 53).

Sometimes, however, coexistence was not so peaceful.

[Some people said], "How dare you blend retail with social causes." Most of the major, really avid criticism was from people who thought that we were trying to take advantage [of the social cause] (CI 56).

Even when positively received by the public, objectives sometimes competed to the detriment of the economic goals.

[People called and said], "This is the best thing in a long, long time—for a company to meld itself with social causes in this campaign" ... But the net result was: yes, it is a good

⁵"CI 11" indicates that this quote is from a "Company Informant," who was the eleventh of the 63 informants interviewed.

⁶"AI 24" indicates that this quote was from an "Agency Informant," who was the twenty-fourth of the 63 informants interviewed.

⁷The term *social campaign* is used throughout to refer to campaigns with a social dimension irrespective of the objective.

campaign, but no, the register did not continue to ring as much. It is expensive, and you need a big return (CI 55)

Still, six of the eight Mixed campaigns were perceived to be successful, which indicates that a synthesis can be achieved.

The Mixed category is more complex than the other two and requires elaboration. Three Mixed campaigns weighted their economic objectives heavily, whereas five heavily weighted their noneconomic objectives. This suggests that the objectives across all campaigns could be thought of as a continuum. Categorization, however, is more appropriate because the differences are of kind rather than of degree. For those Mixed campaigns that had heavily weighted economic goals, the social objectives were real, not simply a means to achieve economic ends as in Economic campaigns. Objectives were truly mixed. Similarly, despite the heightened importance of the social goals in other campaigns, the economic goals remained important, unlike in Noneconomic campaigns. The varying importance of economic versus social goals within the Mixed category does necessitate a refinement. When differentiation is important, the three Mixed campaigns in which economic objectives received particularly heavy weight are designated as *Mixed-economic*; the five in which the noneconomic objectives had significant weight are referred to as *Mixed-noneconomic*. The most important word here is *mixed*, not the hyphenated modifier. The weighting of the noneconomic versus economic goals matters, sometimes a lot, but the most important thing about these campaigns is that they must contend with both economic and noneconomic objectives.

Although Mixed-economic campaigns were fairly straightforward with regard to objectives, Mixed-noneconomic campaigns were more complicated. Not only did noneconomic objectives increase in importance, but also the economic objectives were more complex than in Economic and Mixed-economic campaigns. In addition to, or at times instead of, the economic objectives that were related to sales, brand equity, or image, Mixed-noneconomic campaigns had objectives that can be considered company-oriented, such as achieving human resource management goals or communicating the essence of the company mission to various constituents. To be sure, company-oriented objectives are ultimately economic—to have a more motivated work force improves the bottom line (Heskett et al. 1994; Schlesinger and Heskett 1991). But the economic objective is more indirect and in many ways conceptually different from objectives such as increasing sales or enhancing brand equity. Labeling these *company-oriented* helps differentiate two somewhat different types of economic objectives.⁸

One additional phenomenon regarding objectives should be noted. Informants reported a tendency for their companies to gravitate toward greater emphasis on noneconomic objectives in six Mixed campaigns. These companies had either made indefinite time commitments to the cause or planned to initiate another social campaign in the future. As one company informant said, “I would say that it [the social agenda] was a part of a dramatic, evolutionary theme for us, for our advertising, and also for our company” (CI 54). Else-

where, this phenomenon is referred to as a *tendency to convert* (Drumwright 1994). That is, the socially responsible behavior “takes” and commitment to the social cause evolves.

In summary, observers tend to stereotype advertisements with a social dimension. Some see them as simply a tactic to serve economic ends. Others credit the company with having sincere social concerns. This research finds that the story is far more complex. The objectives cannot be determined simply by viewing the advertisement; indeed, two advertisements that appear to be similar may mask very different objectives.

Advertising Processes

Advertisements are advertisements. Thus, the decision processes to create and evaluate campaigns with a social dimension are not wholly different from standard campaigns. There are differences, however, that are often subtle and at times substantial. Even when objectives are completely economic, once the social dimension enters, aspects of the decision processes more resemble campaigns with social objectives than standard campaigns. In short, when there is a social dimension, things become more complex. Some of the common ways in which campaigns with a social dimension differ systematically from standard campaigns and among themselves are subsequently reported and summarized in Table 4.

Initiation. Experts interviewed prior to collecting the data hypothesized that the more liberal, free-spirited people in advertising agencies would be the ones advocating the use of a social dimension rather than the more conservative company managers. Contrary to expectations, social campaigns were more often initiated by companies.⁹ More interesting than which party initiated social campaigns was the relationship observed between the initiating organization and the nature of the campaign objectives. The campaigns that agency informants initiated were either Economic or Mixed-economic campaigns. Creating breakthrough advertising tended to be the dominant objective. The campaigns initiated by companies, with one exception, fell into two categories as well, Noneconomic or Mixed-noneconomic. Informants in these companies were usually quick to point to social objectives.

Our chief operating officer felt that we needed to raise our voice, not be silent. Silence is compliance. And we wanted to [have an impact with respect to the cause] in our own company. We felt that this was relevant to us as people. So we developed the campaign (CI 54).

Top management involvement. Chief executive officers (CEOs) or chief operating officers (COOs) reported that they were more deeply and actively involved in the social campaigns than in the standard campaigns, and their perceptions converged with reports of their subordinates. Top management involvement was reported as higher than usual in six of the nine Mixed and Noneconomic campaigns but

⁸I thank Richard Barnes for helping me identify and name company-oriented objectives

⁹Six social campaigns were initiated by companies, and four were initiated by agencies. The remaining campaign was the result of a collaborative brainstorming session.

not in any of the standard or Economic campaigns. It was particularly high when the campaign was part of a strategic effort to define and communicate the company's mission, which was the case for four of the companies. One senior marketing executive from such a company explained the context that led to heavy involvement by the CEO:

[T]he company decided we really needed to articulate a vision for what this company was all about.... What we were looking for, and [the CEO] in particular, was ... the overarching equity of the company. And probably that could differentiate us from other companies (CI 31).

Another situation prompting heavy top management involvement was personal commitment to the social agenda by the CEO. Three such CEOs were referred to as "children of the Sixties" who were indelibly marked by the era's social concern. They described themselves or were described by their senior managers as "an old radical ... coming from the Sixties" (CI 27), "an ex-hippie" (CI 56), "bleeding heart liberals ... who believe in trying to make a difference" (CI 55), and "a radical with a Sixties feeling" (CI 46). The common theme among these people is that they believe they can make a difference and indeed have an obligation to do so. In a study of socially responsible organizational buying, people who invested their time, energy, and creativity in launching a socially responsible policy or initiative in their business because they believed it was the right thing to do were labeled "policy entrepreneurs"; there, however, they were most often found to be middle managers (Drumwright 1994). In contrast, in this study, policy entrepreneurs tended to be CEOs or senior managers.

Creativity and execution. The creative and production processes for social campaigns were more complex and often longer than for standard campaigns.¹⁰ Multiple objectives complicated the creative task. One agency was sent back to the drawing board three times before they "got it right" because, "We're asking them [the agency] to do more. We're asking them to communicate the [product], the brand, and a belief ... it was substantially harder" (CI 54). In many cases, selecting the social issue involved at least some extra research and pretesting. Broaching social issues raises sensitivities and is potentially treacherous. The sensitivities of people sympathetic to the social issue are relevant, but those who are unsympathetic, or even antagonistic, must be considered as well. The many ways in which both groups can be offended increase complexity and therefore time and effort. As a result, the process often includes more pretesting of both the creative concept and its execution with various constituents. Finally, the execution process often is more difficult because of the need to be authentic and genuine with respect to the social dimension. For example, this could involve using persons affected by or involved with the cause in the advertisements. In addition to introducing nonprofessionals as models or actors on the set, this could necessitate accommodating people with special concerns and needs.

¹⁰This finding converges with Manrai and Gardner's (1992) assertion that social ideas are both more intangible and more complex than products.

Resistance. Campaigns with a social dimension faced a good deal more resistance than standard campaigns. Resistance usually came from salespeople and retailers who typically had one of two objections. The first was that the advertising was not bringing enough people in the door or making the cash register ring. Standard image-oriented campaigns suffered similar criticism, but it was more intense for social campaigns. The second objection emanated from a lack of affinity for the social agenda and a lack of appreciation of the strategic benefits from association with the cause.

Unfortunately, I think that a lot of the distributors and retailers who carry the brand don't wholly understand the nature of the issue and what it can mean to a company that really stands by that issue. They're afraid of it too. You have to educate them. And that's a long learning curve. And some of those important outlets for the brand may ultimately never embrace that purpose (AI 43).

Attempts to deal with objections in Mixed campaigns typically involved emphasizing the economic objectives.

[We] continued to present a really strong rationale for what this program has done for us, and to play on the business savvy of people in understanding that there is this great benefit in building the image of the company... It's also very hard in a business as fast-paced as ours to get people to understand that it takes more than a year for this to really take hold and for the benefits to be seen (CI 30).

Although resistance from salespeople and retailers was a potential issue for social campaigns, irrespective of their objectives, resistance within the company management appeared to be an issue primarily for Economic and Mixed-economic campaigns. The resistance was rooted in uncertainty about the effectiveness of the social dimension in service of economic goals.

Only executives at the company with the Noneconomic campaign acknowledged the potential of resistance coming from shareholders. The antidote, in their eyes, was education about the business philosophy, as well as stressing economic objectives and benefits.

We really spend a lot of time here talking to our institutional investors, explaining to them why this philosophy is not some sort of bizarre altruism but is at the core of the way we function. And what's more, maybe we're wrong, but we think this is how consumers will increasingly expect companies to behave (CI 47)

Agency-client interaction. When campaigns had noneconomic objectives, companies tended to realize enhanced relationships with their agencies. Both company and agency informants spoke of a different sort of bonding that occurred between their organizations as a result of the collaboration on the advertising with a social dimension. For four of the campaigns, agency informants reported that they or their coworkers had donated some of their services because of shared commitment to the social agenda. Benefits accrued to the agency as well. Company informants spoke of switching costs that had been raised, because their partners had been able to understand and create advertising with a social dimension. Five of the campaigns had won awards, and they often were shown by agencies in securing new business. One agency presi-

dent felt that working on these accounts strengthened his group's ability to focus on "normal" campaigns. They increased the intensity of focus, the skill in execution, and the passion that his group brought to normal campaigns.

Agency informants also often spoke of intrinsic rewards:

I've been producing commercials for 18 years and the two [company name] commercials that we produced for the [cause] campaign were my all-time favorites. It was such a powerful experience to produce them.... We touched a nerve with one and the heart with the other. It was such an emotional experience to select the film footage. We went to the archives and saw footage that shredded our souls (AI 14).

I really enjoyed working on the ad a great deal I'm one of those baby boomers coming off the materialism of the 1980s. I've come to recognize that people are important, that we need to focus on human beings as human beings. I found it rewarding to learn about [the cause] and create a great piece of work in the process (AI 23).

It is interesting that intrinsic rewards occurred even when the objectives of both the company and the agency were completely economic.

Evaluation. It is not surprising that evaluation methods differed dramatically, because campaign objectives varied greatly. For Economic and Mixed-economic campaigns, conventional methods such as copy testing, tracking studies, or even sales were used. Campaigns with a social dimension tended to score higher on intrusiveness than the normal campaigns but lower on persuasiveness and linkage to the product. Like other creative approaches that rely on intrusiveness and salience (e.g., celebrity endorsements), the social dimension can overpower the product message. As one company informant in market research lamented, "I think we sold [the cause] more than we sold [the product]" (CI 21).

Informants overwhelmingly reported more media coverage and consumer reaction to the social campaigns than to the standard campaigns. When objectives were solely economic, public relations measures did not count for much. As company-oriented and noneconomic objectives became more important, so did public relations—concomitantly, so did public relations measures. In some cases, the dollar value of the media coverage received by campaigns with a social dimension was calculated. Informants at one company calculated that their campaign had generated media coverage valued at six times the expenditure on paid media. Unsolicited positive and negative phone calls and letters often were counted, and positive consumer reactions overwhelmingly outnumbered negative ones for all but one of the social campaigns. In several situations, activists and supporters of the cause appeared to have "ginned up" consumer response through organized letter-writing campaigns to the company and the media. Decidedly, not all media coverage was positive, and professional advertising critics tended to be more negative and cynical than other journalists.

To assess the effectiveness of Mixed-noneconomic campaigns with company-oriented goals, particularly those related to human resource management, there was increased

reliance on qualitative methods. For example, when campaign objectives involved increasing sales force morale, periodic focus groups and in-depth interviews with salespeople were conducted. When company-oriented objectives involved high-level strategic issues, such as communicating the essence of the company vision, the evaluation process tended to be informal and subjective. A marketing research executive from one such company elaborated,

In certain programs, we're asked to collect very specific, definitive data to prove or disprove the efficacy of the program. And nobody has really asked about this [for the campaign with a social dimension]. I mean, what they want to know is, Is it being positively received? Is it having an impact? But not in the same way you would look at [a standard campaign].... We've been asked, "What have the reactions been?" But it's a different kind of request than a normal marketing program would get (CI 31).

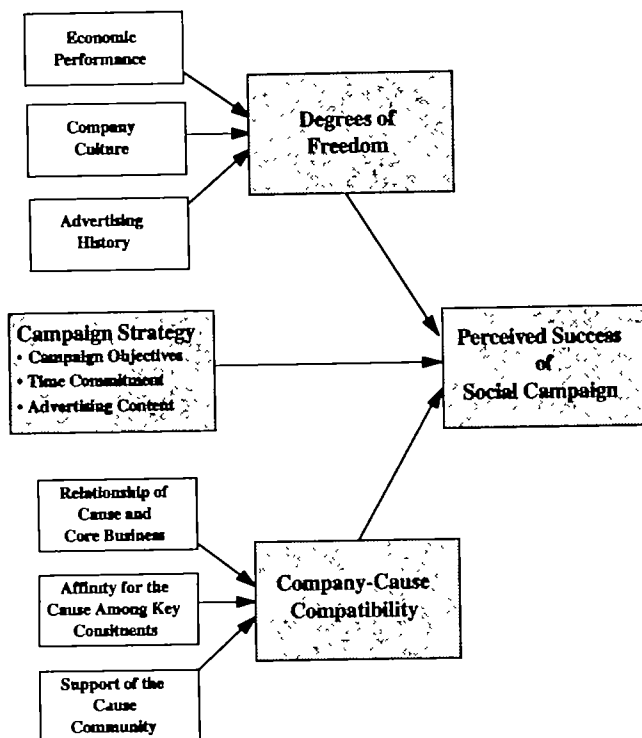
For Mixed-noneconomic and Noneconomic campaigns, companies tended to create and use measures related to the cause, such as number of people requesting cause-related information, volunteering for the cause, or supporting it through writing letters or signing petitions. In some cases, attempts were made to measure the number of people actually engaging in the social behavior; pre- and postcampaign comparisons were made. Companies participating in grassroots, cause-related efforts, or partnerships with nonprofit organizations were especially likely to attempt to get these types of measures.

Success of Social Advertising

Success is in the eye of the beholder and the hands of the evaluator. Seeing success always depends on what a person is looking for and how he or she looks for it. Because most campaigns with a social dimension have multiple objectives, the concept of success is immediately problematic. Add to that the multiple ways in which success can be measured and the complexity grows. Nonetheless, seven of the eleven social campaigns were perceived as successful: five clearly so and two only moderately. Of the seven, two were Mixed-economic, four were Mixed-noneconomic, and one was the Noneconomic campaign. Four social campaigns were not perceived as successful. Two were Economic campaigns, and one was Mixed-economic. The fourth was Mixed-noneconomic. For the standard campaigns, nine were perceived as successful, two overwhelmingly so, and two were viewed as unsuccessful.

Campaigns with a social dimension simply faced tougher obstacles and higher hurdles than standard campaigns. Informants expected more of these campaigns, and the campaigns were more vulnerable to becoming scapegoats than were standard campaigns. For example, even when informants acknowledged that sales had not risen because of several factors, the blame typically was placed on the social campaign. Another pervasive problem involved reverting to short-term measures of success even when objectives were undeniably long-term. Thus, social campaigns were in danger of being ended prematurely. Indeed, four of the social campaigns were ended prematurely, whereas none of the standard campaigns were. Typical was this comment from a company informant when her col-

FIGURE 1
Preconditions for Success of Social Campaigns



leagues abandoned a campaign with long-term objectives when sales did not increase: "They panicked on a short-term basis" (CI 20).

There are factors that increase the chance that a social campaign will be perceived as successful. None alone are sufficient conditions, and further research is needed to determine if some are necessary conditions. These factors, which are portrayed graphically in Figure 1, are encompassed by three constructs: degrees of freedom, campaign strategy, and company-cause compatibility. Some of these factors are important to creating any successful campaign—social or not—but they are extremely important to understanding the success of campaigns with a social dimension.

Degrees of freedom. The term *degrees of freedom* is used conceptually, if not technically. Because of their tougher obstacles and higher hurdles, social campaigns need more latitude than standard campaigns; they need more degrees of freedom. This is true from defining objectives to evaluating results. This cannot mean fuzzy-headed assessment. It may mean, however, the latitude to think, act, and evaluate "outside the box" in ways that often challenge the conventional orthodoxy and sometimes involve paradigm shifts. Three factors or their confluence are related to degrees of freedom.

1. **Economic performance:** The economic performance of the company or the brand increased degrees of freedom in both unusually good and unusually disappointing times. As an advertising informant noted,

Clients will accept [doing things differently] when their business is really, really good (AI 40).

Conversely,

[The company] hired us ... and said, "We're facing a problem, looking into the future.... Consequently, [the brand's] share was beginning to diminish, and if the trend continued, it would certainly be devastating to the company ... [the social campaign] was a drastic move, but we were ... concerned as to the life of the brand (AI 12).

2. **Company culture:** Two characteristics of company culture that increased degrees of freedom were a general willingness to take risks and a history of civic-mindedness. Informants often referred to their organizations' appreciation, or lack thereof, for risk taking. When it existed, social advertising was more likely to be tried and more likely to succeed. Informants had definite perceptions, which they articulated in a variety of ways, about whether their companies were civic-minded. Numerous informants for seven of the campaigns, all Mixed and Noneconomic, identified their companies as civic-minded. As evidence, they cited socially oriented activities, including philanthropy, social activism on the part of executives, executives' service on nonprofit boards, and company policies in response to social issues (e.g., proactive hiring of disabled people, environmentally sensitive organizational buying, paid time off for volunteer work). A history of civic-mindedness provided encouragement for managers to be open and receptive to considering advertising with a social agenda. It also tended to affect the manner in which managers evaluated the advertising's effectiveness, which caused them to factor in social benefits. A history of civic-mindedness, however, did not necessarily mean that the civic-mindedness had been evidenced in the company's previous advertising.

3. **Advertising history:** Companies with a history of innovative advertising were likely to experience less resistance to campaigns with a social dimension. Many informants for five of the campaigns viewed their companies or clients as innovative. They often cited a list of advertising firsts in their product categories. In addition, these five companies had used image-oriented advertising with at least some success in the past. Managers both appreciated the contribution that image advertising makes and did not expect immediate, short-term financial gains from it.

Campaign strategy. Three aspects of campaign strategy were likely to influence perceptions of success.

1. **Campaign objectives:** The greater the emphasis on company-oriented objectives and noneconomic objectives, the more enthusiastic the managers were about the success of the campaigns and their ultimate contributions to the company and beyond. Mixed campaigns were most effective in achieving company-oriented objectives. Of the six Mixed campaigns that were perceived as successful, four had explicit company-oriented objectives.

I think we had a couple of goals. The first goal was really to provide something that would be motivating and energizing to the sales organization and to give them a new way to interact with [customers] ... another goal was certainly to create a program over time that would improve the image of [the company] ... the overriding objective, and it really is related to the other two, is that we really believed in this company that we had the unique opportu-

nity and ability to make a difference in [people's] lives (CI 30).

Informants for the remaining two successful Mixed campaigns reported resounding company-oriented benefits. Benefits related to human resource management were prevalent, occurring in anticipated and unanticipated ways at both organizational and individual levels. For example, informants overwhelmingly reported that they experienced intrinsic rewards from the social campaigns. Company-oriented and noneconomic objectives appeared easier to achieve than the breakthrough advertising and increased sales that typically were sought when economic objectives were emphasized. Note that three of the four campaigns that were not perceived as successful had heavy emphasis on traditional economic objectives. The difficulty of measuring advertising's effects and tying advertising to sales is a well-documented phenomenon, but a social campaign provides an easy scapegoat. Placing importance on company-oriented and noneconomic objectives appeared to offset, at least in part, disappointment when economic objectives were not met in the dynamic way for which the company had hoped.

2. Time commitment: Longer time commitments, those measured in multiple years, increased the likelihood that campaigns succeeded. Given the long-term objectives encompassed by many of the campaigns, longer time periods increased the odds that campaigns would achieve their objectives. This was understood in some campaigns:

We really believed that this was not a program that could achieve its objectives overnight, but over a continuum of time we have a real opportunity to really change the way people think about [the company] .. because of the depth of commitment that we have to this program, it is not an event. It is not a public relations sort of media thing that we're doing. It really is something that we have made a long-term commitment to (CI 30).

A short time commitment, six months or less, invariably spelled doom. Time commitments ranged from four months for a campaign that was prematurely aborted to an indefinite time commitment to a specific cause. Economic campaigns had short time commitments of less than one year, as did two of the three Mixed-economic campaigns. Mixed-noneconomic and Noneconomic campaigns had time commitments of three years or more.

3. Advertising content: The advertising content, its message and execution, was a particularly challenging and critical precondition of success. There is a potential to offend people at every turn. It also is important for the message to have an inspiring or positive bent, even though causes may involve fatal diseases or tough, uncomfortable social problems. A message that was perceived to be too graphic or too harsh could offend and alienate key constituents; salespeople and retailers appeared to be especially sensitive to advertising messages that they perceived as depressing.

Company-cause compatibility. When the cause and the company were compatible, informants were more likely to perceive the campaign as successful.

1. Relationship of cause to core business: The relationship of the cause to the company's core business appeared to influence the way in which the company's association with

the cause affected consumers. Three types of relationships between the social agenda and the core business were observed. In one, there was no relationship—a complete disconnect. In a second, there was an indirect relationship in which the cause and the company shared a target market (e.g., a women's product and a women's health concern). In a third, the relationship between the company and the cause was close, and the company could be perceived to benefit, at least indirectly, as the cause flourished (e.g., an athletic equipment manufacturer and the cause of promoting physical fitness among affluent, middle aged professionals).¹¹

The most advantageous relationship observed for the campaigns in this study was the indirect one. Dissonance resulted when there was no relationship and salespeople and retailers did not develop an affinity for the cause. When there was too close a relationship, managers pointed to cynical reactions from consumers about the company's motive, who perceived it to be opportunistic or exploitative.

2. Cause affinity among key constituents: Affinity for the cause among key constituents increased the probability of perceptions of success. Key constituents are both internal (employees, especially salespeople) and external (channel partners, vendors, customers, and consumers at large). All four of the unsuccessful social campaigns had problems with constituents having little affinity for the cause. One campaign that ultimately was perceived as successful also had difficulty along these lines. Unless employees have or develop an affinity for the cause, the company is unlikely to realize any human resource benefits from the advertising with a social dimension. As was explained previously, channel partners—retailers in particular—lacking an affinity for the cause can be a source of resistance that can sabotage the campaign. Reaching out to customers, vendors, and consumers on behalf of the cause can give the social campaign credibility and meaning that extends beyond the advertising itself, which enhances the prospects of reaching company-oriented goals related to expressing the essence of the company and its mission. Developing affinity for the cause among key constituents took two forms: encouraging internal constituents to become actively involved with the cause and “evangelizing” for the cause among external constituents.

In the companies studied, employee involvement with the cause varied greatly. At one extreme, it was nonexistent. This was characteristic of the Economic campaigns. Companies with Mixed-economic campaigns had low levels of employee involvement. With one exception, companies with Mixed-noneconomic campaigns fell into either moderate or high categories. The Noneconomic campaign had high employee involvement. In companies with low levels of employee involvement, any involvement with the cause was informal and completely at the initiative of individual employees. As the importance of the social goals increased, so did the companies' efforts to provide opportunities for information and involvement, which in turn increased involvement. Companies with moderate levels typically would bring cause-related speakers in to address employees or provide cause-related workshops or sensitivity training.

¹¹These examples are for explanatory purposes. They do not necessarily represent examples of the campaigns studied.

Employees were informed of volunteer opportunities and encouraged to join in. When employee involvement was high, companies did everything that those with moderate involvement did and then went further to "institutionalize" involvement with the cause. For example, one company scheduled its executives from around the world who were convening at headquarters for a week-long meeting to spend the first day together volunteering for the cause. Others organized volunteer opportunities and/or provided paid time off for volunteering.

The extent of evangelism varied dramatically, and it increased as the emphasis on noneconomic objectives increased. Evangelism was nonexistent for Economic campaigns; the primary outreach was the advertising itself and the awareness of the cause it created. For Mixed-economic campaigns, any evangelism efforts were informal and at the initiative of individual employees. Mixed-noneconomic campaigns had moderate to high evangelism, and for the Noneconomic campaign, it was high. Moderate levels of evangelism typically meant providing some venue for consumer information and/or consumer involvement, usually through an 800 telephone number. Campaigns with high levels of evangelism not only provided a venue for consumer information and involvement, but they also actively sought to solicit both customers and vendors through personal petitions. For example, in some companies, sales force members distributed information about the cause and urged involvement. In other companies, managers solicited the support of vendors, inviting the vendors' employees to join with the company's employees in serving the cause. The appeals were made to the potential vendors during the selling process. "[W]e're trying to build a model of business. We're looking for like-minded companies [as vendors], companies that will connect with our organization. We talked about how [involvement with the cause] provides value to us" (CI 54). Another company initiated collaborative, grassroots-oriented programs with its retailers on behalf of the cause.

Companies with both high levels of involvement with the cause among internal constituents and evangelism for the cause among external constituents institutionalized support for the cause, thereby making a substantial and enduring organizational commitment to it. As a CEO from one such company said, "I don't see how we could back out now, even if we wanted to" (CI 63).

3. Support of the cause community: The active support of the cause community—nonprofit organizations and associations affiliated with the cause—can be of tremendous assistance. In contrast, antagonism or skepticism can doom a campaign. Interaction and association with the cause community lends credibility and expertise to the company's efforts. For example, when media critics accused one company of exploiting the cause, influential members of the cause community mobilized a massive counter-campaign waged through media interviews and a grassroots letter-writing campaign. A company informant spoke of the benefits of cause community support:

Luckily, I think that we've been able to align ourselves with some really, really good people who are very influential within the [cause] community who have been really very carefully cultivated to understand what we're about.

They've become real fans of [the company] and the power that this company has, and [they] realize that we have a lot to offer them" (CI 30).

The cause community also can lend its expertise to cause-related efforts that the company initiates, particularly those of a grassroots nature. However, developing these relationships can involve substantial expenditures of time and effort by company managers.¹²

Discussion

The identification and importance of objectives, the relationships expressed in Table 4, and the links to success in Figure 1 are replete with hypotheses that warrant further investigation. The following discussion is an attempt to elaborate on the findings and to augment and amplify the opportunities for further research emanating from the study without unduly repeating what has already been said or implied.

Organizational Identification

Campaigns with a social dimension were highly effective in achieving company-oriented goals, such as motivating the work force and communicating the essence of the company mission. A potential theoretical explanation comes from research on organizational identification, which focuses on the degree to which employees define themselves by the same attributes that they believe define the organization. A high degree of organizational identification can result in job satisfaction, organizational commitment, and desirable work-related behaviors, such as intraorganizational cooperation, greater effort exerted on behalf of the organization, and higher retention (Chatman 1991; Dutton, Dukerich, and Harquail 1994; O'Reilly and Chatman 1986; O'Reilly, Chatman, and Caldwell 1991).

In an important work, Dutton, Dukerich, and Harquail (1994) assert that two images or perceptions of a person's work organization shape the strength of organizational identification: (1) organizational identity, which is what an employee believes is distinctive, central, and enduring about the organization, and (2) construed external image, which is what an employee believes outsiders think about the organization. Organizational identification is stronger when employees perceive that both the organizational identity and construed external image are attractive, distinctive, consistent with the attributes they use to define themselves, and helpful toward enhancing their own self esteem.

Organizational identification may be the route through which advertising with a social dimension achieves company-oriented goals. Distinctive organizational attributes often remain hidden from internal and external constituents (Albert and Whetten 1985; Fiol 1991). Advertising with a social dimension appears to be an effective way to make dis-

¹²The alliance between the cause community and the company provides opportunity for another dyadic study focusing on the costs, benefits, problems, and opportunities perceived and experienced by both parties.

tinctive organizational attributes salient. Moreover, when there is a high degree of company-cause compatibility, social campaigns increase the attractiveness of organizational identity. The propensity of the campaigns to generate publicity and consumer reaction enhances the construed external image. Company informants repeatedly spoke of the social campaigns' influence on both. One informant described the impact on organizational identity:

[The cause] is being woven into the texture of the company and how we do business, how we think about ourselves ... and our salespeople have another reason to feel more aligned with us as a company and to have a stronger affinity with us because we're demonstrating a great deal of commitment to an issue they believe in (CI 30)

She also alluded to the influence on construed external image:

I have the best job in the world and I know that because I get all the phone calls and letters from these people saying ... this is the greatest thing that [the company] could ever do ... and that's great. That's the kind of stuff you can't buy (CI 30).

It is important to note that the positive effects related to organizational identification are contingent on having or developing company-cause compatibility. Additional research is needed to determine when and under what circumstances advertising with a social dimension strengthens organizational identification. What factors enhance company-cause compatibility? Generally, what organizational and environmental contingencies come into play, and what are their ramifications?

Interorganizational Identification

Another finding of this research is that when advertising has a social dimension, companies tend to realize enhanced relationships with their agencies through a different sort of bonding. This bonding could be the result of a type of interorganizational identification that extends to employees of marketing partners. Increased interorganizational identification could bring about desirable work-related behaviors, such as cooperation and greater effort exerted on job-related tasks. The donations of services reported by agency informants for four campaigns are examples of cooperative behavior.

Interorganizational identification also could extend to corporate customers, suppliers, and other types of "partners" whose cooperation, commitment, and trust become vitally important as outsourcing, strategic alliances, networks, and virtual corporations increase (Coyle and Schnarr 1995; Davis and Darling 1995; Varadarajan and Cunningham 1995; Webster 1992). Shared values, on which interorganizational identification is based, have been found to be a direct precursor of both relationship commitment and trust in relationship marketing (Morgan and Hunt 1994). Thus, advertising with a social dimension could be a mechanism for spanning interorganizational boundaries. If so, questions arise for further examination. Under what circumstances is advertising with a social dimension most likely to create interorganizational identification between a company and its partners? What types of behaviors on the company's part

increase the likelihood that interorganizational identification will occur? What effects do organizational and environmental contingencies have? Once interorganizational identification occurs, how should it be nourished and leveraged?

Mixing Objectives

Research questions of when, how, and under what conditions economic and noneconomic objectives can be blended prudently still remain. The contingent effects of organizational, environmental, and other factors must be identified and considered. My study addresses these issues and contains implicit propositions along these lines, but further efforts are needed. Campaigns with mixed objectives often evolve toward greater emphasis on noneconomic objectives.¹³ Behavior modification is one theoretical explanation, though there may be others. Evolution, however, may not always be desired. The problems, benefits, and likelihood of such evolution warrant further examination.

Ethical Considerations: Cause-Related or Cause Exploitative?

There has been much discussion regarding the potential adverse effects of company advertising with a social dimension, and many authors have raised the question of whether these programs are cause-related or cause exploitative (Andreasen 1996; Barnes 1991; Cunningham 1996; Gurin 1987; Ross, Stutts, and Patterson 1991; Varadarajan and Menon 1988). However, it is not so clear what *cause exploitative* really means. Informants who were most sensitive to the question of exploitation were involved with Economic or Mixed-economic campaigns. Exploitation was not generally an issue for informants involved with Mixed-noneconomic or Noneconomic campaigns. When probed, many of those for whom exploitation was an issue seemed to be unclear about what exploitation actually entailed. Nonetheless, for most the test was clear: Did observers react negatively? There was a great deal more concern about not being *perceived* as exploitative than about not being exploitative. The issues related to exploitation involved three concerns. By far, the first and most prevalent concern related directly to demeaning the persons representing the cause in the advertisements through the manner in which they were portrayed. The antidote in these situations was sensitivity and taste in execution. As one informant explained, "I think any anxiety about the potential issue of whether or not we were exploiting these people had been put to rest by the fact that we had treated it so tastefully" (AI 37). A second concern involved a fear that observers would perceive the company's support for the cause as tokenism because the company lacked a consistent track record of supporting the cause. A third concern involved the use of the cause to engender emotion through which to sell the product. As one informant said, "We want to sell product. [Person representing the cause] was a way that we could do it, and that could be interpreted as exploiting" (CI 19). None of

¹³This finding was based on the reports of informants and not on longitudinal observation.

the informants believed that they had been involved in exploitation. Many used a utilitarian point of view to justify the use of the cause, reasoning that the outcome or consequences of the campaign had benefited the cause. In fact, the cause communities viewed both Economic campaigns as extremely beneficial. The "right" things can come about for the "wrong" reasons.¹⁴ A few informants used deontological reasoning, emphasizing that their intent had been genuine in wanting to help the cause. Informants for one Mixed campaign that had incurred strong criticism from the cause community justified their campaign because they had intended to help the cause. Thus, the "wrong" things can come about for the "right" reasons.

As interesting as why informants involved in campaigns with heavily weighted economic goals were so sensitive to the issue of exploitation is why informants involved in campaigns with heavily weighted noneconomic objectives often were not. It might be assumed that because the cause was more important to this group, they would be more worried about the possibility of exploitation. However, it appears that sincerity about the cause assuages worries about exploitation, again a deontological perspective. Ironically, absent the sensitivity to exploitation, there was not as much concern with having an appropriate and effective execution, and in one campaign in particular, this proved to be a problem. Good intentions may pave the road to troublesome places.

Also implicit in the manner in which some of these informants justified their campaigns were answers to two questions Bloom, Hussein, and Szykman (1995, p. 5) raise: "Is society better off because of this program?" and "Could this program have performed better if corporate involvement had not existed and only a nonprofit and/or government agency ran it?" One informant addressed these questions directly:

I think probably the overriding objective ... is that we really believed in the company that we had the unique opportunity and ability to make a difference in [people's lives].... And it's an interesting equation because [the governmental agency] couldn't do it by themselves. [The nonprofit organization] couldn't do it by themselves. And we couldn't do it by ourselves. But together, there is this—we call it the three-legged stool—and there's this interesting pooling of resources in a way that government, private industry, and not-for-profit organizations have previously not really done.... [This is] the substantive proof that we're doing something that hopefully is going to make a difference (CI 30).

Perhaps more appropriate and prudent than either a utilitarian or deontological approach would be one that could be characterized as dualist, in which intent and consequences both matter. If this is, indeed, more appropriate, then research should examine how a person can ensure that a dualist perspective pervades the attitudes of key players within both companies and their marketing partners. What organizational mechanisms create and reinforce a dualist

perspective throughout the development and implementation of a campaign?

Managerial Implications

Much of the preceding discussion encompasses managerial implications. This section augments the topic and offers an implicit set of additional hypotheses for further research. Varadarajan and Menon (1988) offer several managerial dimensions that represent choices practitioners make in using cause marketing. Many of the managerial dimensions noted subsequently are ones they identified. Although sometimes recast, some of their other dimensions have been addressed, explicitly or implicitly, in preceding sections.

Level of association between firm and cause. Is it better for the association with the cause to be at the brand level, the product line/divisional level, or the organizational level? It appears to be advantageous for the association between the firm and the cause to be at the organizational level. Organizational-level associations enable the benefits of stronger organizational identification to be widespread and pervasive. They also enable social campaigns to benefit franchisees and licensees. These campaigns are more likely to succeed because the support of senior management, which is a prerequisite for organizational level associations, brings more resources to bear on the social campaign and gives it more visibility.

Number of participating entities. Is it better to have a single brand and a single cause, a single brand and multiple causes, multiple brands (intracompany) and a single cause, or multiple brands (intracompany) and multiple causes? The organizational level association recommended previously stipulates that multiple brands be involved with the cause. With respect to the number of causes, fewer is better. For company-oriented benefits to be realized fully, companies must integrate the cause into internal and external programs, which provides opportunities for employees to be involved with the cause and evangelize for it. Because of the resources involved in doing this, social campaigns are more effective when they focus on fewer causes, perhaps one. Moreover, focus also facilitates a stronger organizational identity. When multiple causes are used, they should be a related cluster or family of causes that create a theme.

Geographic scope of the campaign. Can a social campaign be effective on a transnational basis? Yes, it can be, and it can bring company-oriented benefits to bear in far-flung places of company operations. Three of the successful campaigns in this study were transnational. However, when a campaign spans a heterogeneous group of countries, it may be difficult to find one cause that key constituents in all relevant countries view as high priority. In this case, a family of causes may be effective, and it is advantageous to permit country managers to select different but related causes (e.g., various children's health concerns). Implementation in multiple countries is obviously more complex than in a single country. However, managers in one or a few countries can lead in learning about developing and implementing

¹⁴"Right" and "wrong" are used relative to the topic of the article, not in an absolute or normative sense.

campaigns for the cause or family of causes, and thereby serve as role models and resources.

Cause-related or corporate issue promotion. Is it better for the campaign to be cause-related marketing or corporate issue promotion? Whether the campaign involves what Varadarajan and Menon (1988) define as cause-related marketing (i.e., a donation that the firm makes contingent on a consumer making a purchase) or what Andreasen (1996) calls *corporate issue promotion* (i.e., promotion of a cause without the promise of a contribution) or both does not seem to matter. What does matter is the degree of organizational commitment and the degree to which the cause is integrated into other programs targeting both internal and external constituents.

Campaign objectives. Is it advisable to try to achieve economic, company-oriented, and noneconomic objectives in a single campaign? Rather than trying to achieve all three types of objectives in a single campaign, a portfolio approach can be used. In such an approach, some campaigns have primarily company-oriented and noneconomic objectives, whereas others have primarily economic objectives. This can free campaigns with heavily weighted company-oriented and noneconomic objectives from conventional advertising measures, and managers can avoid the predicament arising from a mismatch of campaign objectives and evaluation measures.

Evaluation. How should social campaigns be evaluated? Users of social campaigns must develop new approaches to evaluate long-term, company-oriented, and noneconomic objectives. Traditional short-term measures are inappropriate. On the other hand, the current reliance on subjective evaluation is also troublesome. More systematic and rigorous approaches to qualitative data collection and analysis, as well as to the development of appropriate quantitative measures are needed.

Integrated communications. Can social campaigns be effective mediums for integrated communications? Because of their potential to increase organizational identification and achieve company-oriented goals, social campaigns can be a particularly effective mechanism through which to integrate external and internal communications efforts. This extends integrated marketing communications—the strategic integration of the various marketing communications functions (Duncan and Everett 1993)—into the realm of internal communications and human resource management. The effectiveness of advertising with a social dimension in this context is largely dependent on the degree of affinity that external and internal constituents have or develop for the cause.

Limitations. What are the limitations of social campaigns? Social campaigns do not appear to be particularly effective in achieving short-term economic objectives, such as increasing sales or differentiating products. They can be more difficult to execute than other approaches, and even a well-conceived and well-executed campaign may be ineffective if constituents do not have or develop an affinity for the cause. Although the cause message is often effective in breaking through clutter and getting attention, it can overwhelm the product message.

A social campaign's message may be misinterpreted or misconstrued, which may lead to negative attributions to the company by consumers. Finally, it may be difficult for a company to end an affiliation with a cause without negative repercussions from the cause community and others, perhaps including key company constituents.

Conclusion

There is much work yet to be done in the area of advertising with a social agenda. From the perspective of those interested in social responsibility, several findings from this study are encouraging. Economic and noneconomic objectives can be blended in a harmonious manner in an individual campaign and/or through a portfolio approach to communications programs. Moreover, when campaigns have mixed objectives, they often evolve toward greater emphasis on noneconomic objectives, and managers are more likely to continue the campaigns and use noneconomic objectives in future campaigns. Finally, social advertising, whatever the motivation, can have positive social benefits.

From the perspective of all students of marketing, company advertising with a social dimension and the study of it can and should no longer be relegated to the status of an interesting but minor marketing phenomenon. Done properly, it has important potential benefits for the company. It is becoming mainstream in commercial advertising, and it must now be studied in that context.

Appendix A

Interview Protocol

1. How did this campaign come about?

Probes: How and why did you become involved, and what role did you play? Where did the concept for this campaign come from? Who advocated it and with what rationale? How was that rationale received? Who else was involved, and what roles did they play?

2. What was the strategy behind this campaign?

Probes: What were the objectives for this campaign? Why and how were they selected? What was the target market, and why was it selected? What was the message, and why was it selected? What media were selected for this campaign, and why? How much was spent?

3. (If it was a social campaign) Why was the decision made to affiliate with this cause or causes?

Probes: How did this decision come about? Were members of the cause community involved? If so, what roles did they play?

4. What challenges, if any, did this campaign present?

5. What was the impact of the campaign?

Probes: How was effectiveness assessed, and what measures were used? Who was involved? Was the campaign successful?

6. What, if anything, did you learn from your involvement with this campaign?

7. (After specific questions related to both the social and standard campaigns) What differences, if any, did you

observe between the processes that resulted in the social campaign and those of the standard campaign?

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Automatic and Strategic Processes in Advertising Effects

The author distinguishes two kinds of cognitive processes: automatic processes, which are mostly subconscious, are learned and changed slowly and are not subject to the capacity limitations of working memory, and strategic processes, which are conscious, are subject to capacity limitations, and can easily be adapted to situational circumstances. The perception of advertising and the way it influences brand evaluation involves both processes. Automatic processes govern the recognition of advertising stimuli, the relevance decision that determines further higher-level processing, the retrieval of information, and the provision of a heuristic for brand evaluation. Strategic processes govern learning and inference formation. The relative importance of both types of processes depends on product involvement. The distinction of these two types of processes leads to some conclusions that are at variance with current notions about advertising effects. For example, the attention span problem is relevant only for strategic processes. A certain amount of learning can occur with little conscious effort, and advertising's effect on brand evaluation may be more stable for low- than for high-involvement products.

Since the unmasking of Packard's (1957) "experiments" on subliminal advertising and the demise of motivation research in the beginning of the sixties, there has been little interest in unconscious effects of advertising (Moore 1982). The analysis of advertising effects has been dominated by cognitive models of information processing, in which information processing is largely equated with conscious thought processes and measurement is dominated by verbal methods.

I am concerned with a basic distinction, made in cognitive psychology, between two types of cognitive processes: *automatic* and *strategic* cognitive processes. Automatic cognitive processes are unconscious, parallel, and not subject to capacity limitations and are always triggered in response to a certain cognitive input. Strategic cognitive processes are conscious, serial, subject to capacity limitations, and readily adapted to situational circumstances. The latter relate to conscious thinking, whereas the former relate to unconscious processing. By addressing the whole range of cognitive processes, both automatic and strategic, a more complete picture of advertising effects is obtained, and some of the criticism recently directed at the information processing approach toward analyzing advertising effects can be addressed.

In the following sections, I first describe the distinction between automatic and cognitive processes in more detail and then discuss which role these processes have in the cognitive tasks most central to advertising effects: attention, perception, learning, retrieval, and information use. Using this as a basis, I then formulate propositions about advertising effects, some of which are at variance with current textbook knowledge.

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Characteristics of Automatic and Strategic Processes

The Concept of Automation

The notion that certain human processes become automated dates back as far as 1890, when James described this phenomenon in *The Principles of Psychology* (1950). Automation was later mostly discussed in connection with the acquisition of motor skills. Many common motor processes, such as walking, are characterized by two main features that are taken to be the result of automation: They require no conscious attention and do not noticeably prevent people from doing other things simultaneously. Research on the acquisition of motor skills has therefore also contributed to the question of how automation develops (Johnson 1984). Take typewriting as an example: In the beginning, typewriting requires a lot of conscious attention, which is regarded as tiring and is prone to many errors. With increased practice, conscious attention drops, the task becomes much less tiring, and much more error-free. When a person is forced to change to a new type of keyboard, however, in which certain characters are interchanged, it is difficult to break the automation that has developed and adapt to the new task environment. These examples of motoric processes show several typical things about automation:

- Automation develops slowly with practice.
- Processes that became automatized require little conscious attention so that a person usually can perform other tasks simultaneously.
- Automation eases responses in those situations in which learning took place but makes it more difficult to respond to new situations.

Automation also occurs with regard to nonmotor skills. Perceptual skills that do not (or at least do not immediately) lead to a motor response are the most well-researched exam-

ple. Such skills are concerned with recognizing and categorizing stimuli and finding appropriate reactions to them. They are, hence, skills involving cognitive processes in the sense of Hilgard's (1980) definition, namely, processes concerned with the acquisition, storage, and use of information to direct behavior. They have immediate advertising relevance: Recognizing a brand name or logo in advertising and deciding whether to attend to the advertising further are examples for these kinds of processes.

The Shiffrin and Schneider Experiments

Most influential in the discussion about the automation of such cognitive processes are the experiments and theory presented by Schneider and Shiffrin (1977). Subjects were briefly presented frames with visual symbols, such as digits, consonants, or random dot masks. Their task was to decide whether the frame contained target symbols (i.e., elements from a set of target symbols presented before the actual trial) or whether it only contained distractor symbols. The accuracy of detecting the target symbols and the reaction time in announcing whether a target symbol was present were measured as dependent variables.

Intuitively, it would be expected that the task would become more complicated as the number of target symbols increases and the number of symbols in the frames increases. Both together determine the number of comparisons that would need to be made to make a correct decision. It would therefore be expected that the accuracy of detecting target symbols and the speed in doing so decreases as the number of target symbols and the size of the frames are increased. Although there will always be a trade-off between accuracy and reaction time, as is shown in Figure 1, the locus of this curve moves in the direction indicated as the task becomes more complicated.

This result was found—but only in what was called the *varied mapping procedure*. In the varied mapping procedure,

target symbols and distractor symbols were mixed over trials, that is, a symbol that was a target symbol in the first series of frames in the experiment could be a distractor symbol in the second series. In the *consistent mapping procedure*, across all trials, symbols that were target symbols in one trial were never distractor symbols in any other trial, and vice versa. Only in the varied mapping procedure did the curve relating reaction time to accuracy move with increasing task complexity, as in Figure 1. In the consistent mapping procedure, increasing task complexity did not result in a dislocation of the curve (i.e., accuracy and reaction time were not affected by task complexity). Also, performance was generally better than in the varied mapping procedure.

Schneider and Shiffrin interpret these results as mirroring two different types of cognitive processes:

1. In the varied mapping task, a serial search is occurring, in which every symbol in the frame is successively compared to every symbol in the set of target symbols. Because of its serial nature, accuracy of detection decreases with the number of comparisons that must be made when reaction time is held constant, or reaction time increases when accuracy is held constant.
2. In the constant mapping task, however, automatic detection occurs. After a certain number of trials, the detection of the targets becomes automated to a degree that target detection is a parallel process, which therefore is not affected by the number of symbols to be compared.

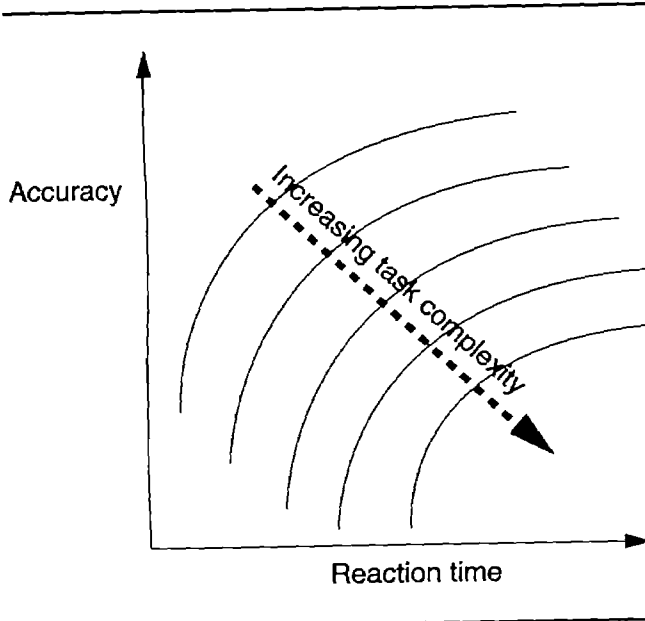
Many additional experiments have been run by Schneider and Shiffrin and other authors (e.g., LaBerge 1975; Naveh-Benjamin 1990; Palmer and Jonides 1988; Stanovich and West 1979; Strayer and Kramer 1990), which shows, among other things, how fast automation develops (after some 2000 trials in the standard task just described) and how an automation once developed leads to a dramatic decline in performance when the task is changed, namely, to a level of accuracy that is considerably below the level that naive subjects (i.e., subjects who have not developed automation of any kind) show. Similar experiments also have been carried out with social judgment tasks (e.g., judging the suitability for a job), in which the same development of automation could be observed (Smith and Lerner 1986).

On the basis of these experiments and emerging theorizing, the two types of processes are commonly characterized as follows:

- Controlled or Strategic Processes: Conscious, serial processes, which are subject to the capacity limitations of short-term memory and readily adapted to task circumstances (Strube 1984).¹
- Automatic Processes: Parallel, unconscious processes, not subject to capacity limitations, and always triggered in

FIGURE 1

The Shiffrin and Schneider Experiments



¹Shiffrin and Schneider (1977) actually distinguish between two types of controlled processes: accessible and veiled. The distinction is introduced because some controlled processes, while maintaining the characteristics of sequential processing, capacity limitation, and fast task-adaptability, are nevertheless hardly accessible to conscious perception and verbal instruction, because they occur quickly. When strategic processes are subsequently discussed, I will mostly refer to accessible controlled processes. However, some veiled controlled processes are obviously relevant in advertising research as well—the prime example being speech production.

response to a certain cognitive input, which may be externally or internally generated. These processes require a considerable amount of consistent training to develop. Once developed, they are difficult to suppress, modify, or ignore.

To see the implications of this distinction for the analysis of advertising effects, I first discuss in more detail their implications for attention, perception, and learning. Although experiments of Schneider and Shiffrin's type involve these three processes, the general conclusions may not be obvious, nor their importance for advertising effects. Second, I discuss implications for retrieval and information use, which allows for conclusions about the role of automatic and strategic processes in brand evaluation.

Automatic and Strategic Processes in Attention, Perception, and Learning

Filtering Mechanisms in Attention and Perception

The question of attention and perception is intimately linked to the existence of automatic cognitive processes. Actually, it is hard to explain attention without such processes. It is commonly assumed that attention is selective and that selective attention is necessitated because of the capacity limitations of the cognitive system (Johnston and Dark 1986). This is why attention is focused on a small subset of the stimuli in the environment and why, among many other stimuli in the environment, a large part of the advertising to which a person is exposed usually goes unnoticed. The question of on which level of processing this selection of incoming stimuli occurs has been the subject of considerable debate. Does a person simply screen out certain sources of stimuli, on the basis, for example, of their physical placement in the environment—such as deciding not to listen to the radio that the driver of a car has turned on? Does a person screen out stimuli on the basis of their general physical characteristics, such as the pitch of a voice, so that attention can be immediately diverted (consider, for example, the pitch of the typical you-have-to-buy-now-by-dialing-800 voice)? Or does some substantive processing take place before the selection is made—for example, with regard to what type of product a person is urged to buy?

The major experimental paradigm that helped answer this question was inspired by the cocktail party situation. At a cocktail party, a person concentrates on the person with whom he or she is conversing, and usually screens out all the other conversations going on at the same time. But when something of particular personal salience is mentioned in other conversations—such as the person's own name—this will attract attention as well. The surrounding conversations are simultaneously scanned to an extent that makes it possible to detect salient words or topics. Shadowing tasks have been the main experimental analogue to the cocktail party phenomenon: A subject receives, for example, two different messages to the right and the left ear, and is instructed to concentrate on one of them by shadowing it (i.e., repeating it in loud voice). Later memory tests show that part of the message that was played to the other ear nevertheless was

attended to and that the likelihood of attendance is related to the personal relevance of the information (Moray 1959). Also, when the message to be attended to is changed from one ear to the other, subjects have no problem switching their shadowing between the ears (Cherry 1953; Treisman 1960).

Some parallel, unconscious processing of all incoming stimuli thus must occur, which suggests that these are automatic processes. In the cocktail party example, these automations have to do with people's extensive training in understanding language. In a language in which a person is well-versed, the person has been extensively trained in recognizing combinations of phonemes and linking them to higher-order cognitive categories.² This can be most easily conceived by imagining a memory structure in the form of a hierarchical network of nodes and links. Memory nodes corresponding to abstract categories, such as the person's name, are hierarchically linked to other nodes corresponding to phonemes, which again may be linked to nodes corresponding to acoustic features (Elman and McClelland 1985). These hierarchically related nodes have become activated together so many times that this sequence of activation has become automated, and the name will be recognized even if the source is not consciously attended to. Such automatic recognition occurs for all well-trained and salient acoustic stimuli in the environment, including advertising.

Most advertising is not exclusively acoustic and usually is not purely verbal either. Similar recognition processes are at work with visual language impressions (i.e., reading) and with visual or acoustic impressions, which are not language-based. The physiological stimuli are automatically linked to higher-order cognitive categories, if previous experiences with the stimuli allow such linkage (LaBerge 1975; LaBerge and Samuels 1974).

The cocktail party example also shows when automatic stimulus recognition does not work. A language with which a person is not familiar cannot be scanned subconsciously, because the associations between phonemes and meaning have not been automated to the same extent. The same goes for mispronunciations and misspellings (Stanovich and West 1979). Unknown words in the familiar language interrupt the process of automatic recognition, as well (Johnston and Dark 1986). Also, in advertising, the automatic recognition of stimuli works only to the extent that the information is readily recognizable (i.e., it can be linked to known cognitive categories by a well-established associative chain). Unknown terms, ambiguous information, and abstract pictorial information are not automatically recognized.

Explaining Attention and Perception by Spreading Activation

The process of automatic stimulus recognition can be described more precisely as one of spreading activation.

²Speech recognition is obviously more complicated than this and does not necessarily and most certainly does not only occur at the phoneme level. It most likely occurs at several levels simultaneously, which makes a strong argument for parallel processing in a hierarchically structured network—the type of model argued for here (see Elman and McClelland 1985).

That is, in a memory network model, activation is assumed to spread from activated nodes to other nodes along the links in the network, and the amount of activation transferred depends on the strength of the link. Spreading activation theory was mainly developed by Collins and Loftus (1975) in connection with their work on semantic memory and was later extensively used by Anderson and his colleagues as a basic mechanism to explain the unconscious processes in the cognitive system (Anderson 1983a, b; Anderson and Pirolli 1984). With automatic stimulus recognition, memory is conceived as a network of nodes and links. Nodes represent cognitive categories (i.e., pieces of information, such as phonemes, or higher-order categories, such as brands, product attributes, and consequences of product use). The links between them, which can vary in strength, represent associations between these cognitive categories—for example, linking the brand name to its phonemic representation or linking a brand name to product attributes or consequences of product use. The complete set of nodes and links is also called *cognitive structure*, which is the organization of knowledge in memory—usually conceived of as consisting of cognitive categories and their associations and often modeled as a memory network.

Every node can be more or less activated. Activation can result from external stimulation. Thus, when a phoneme is heard, the memory node corresponding to that phoneme becomes activated. From the activated nodes, activation spreads throughout the network, according to the following principles (Balota and Lorch 1986; Grunert 1990, pp. 80-81):

- Activation spreads in a parallel way (i.e., simultaneously from all activated nodes) and along all links emanating from a node.
- In that process, activation is lost, and the loss is inversely proportional to the strength of the link between two nodes.
- The resulting activation of some node is the sum of all ingoing activation.
- When there are no new sources of activation, the activation pattern in the network rapidly approaches some asymptotic pattern.

When nodes corresponding to certain phonemes are externally activated and these are strongly associated with higher-order cognitive categories, such as a brand name, then the node corresponding to the brand name is activated as well. This process of spreading activation is automatic, that is, unconscious, parallel, and not subject to capacity limitations.

It is further assumed in spreading activation theory that the amount of activation received by any particular node in memory is linked to consciousness. Whenever the activation of a node surpasses a threshold, the corresponding cognitive category becomes conscious. This threshold may vary in a way that keeps the number of nodes that are conscious at any particular point in time at some optimum level (cp., e.g., Anderson 1976, p. 123; Grunert 1982, pp. 74-77; Norman and Rumelhart 1975, p. 338; Shiffrin and Schneider 1977).

The set of nodes that have surpassed the threshold of consciousness may be regarded as the *short-term store* of memory, whereas the complete set of links and nodes is the *long-term store*. The short-term store is thus just an activated subset of the long-term store.

The assumption of a network-organized long-term store and externally triggered spreading activation actually constitutes a theory of selective attention, but it only predicts that those stimuli that are strongest and/or are most familiar will be attended to. The relevance criterion still must be added. The automatic stimulus analysis should not only relate the stimuli to higher-order cognitive categories, but also determine their relevance. This is done by assuming that activation can also be internally caused (Anderson 1983a, pp. 89-90; Grunert 1990, pp. 79-80).

Internal processing causes certain parts of the memory network to be more activated than others. This internal activation is determined largely by strategic processes (e.g., conscious thinking, goal-setting, problem solving). Internal and external activation are assumed to be additive, and those stimuli will become conscious (i.e., be attended to) where the sum of both sources of activation is highest. This explains why even weak stimuli will be attended to when they are highly relevant. For example, when a person is about to buy a new car or house, cognitive categories related to these topics have high internal activation, and advertising on cars or houses has a high chance of being attended to—even when the sensory stimulation caused by them is weak (e.g., a billboard is passed at high speed, a commercial appears on the neighbor's television set). This also implies that the chance of misperception is highest for highly relevant topics.

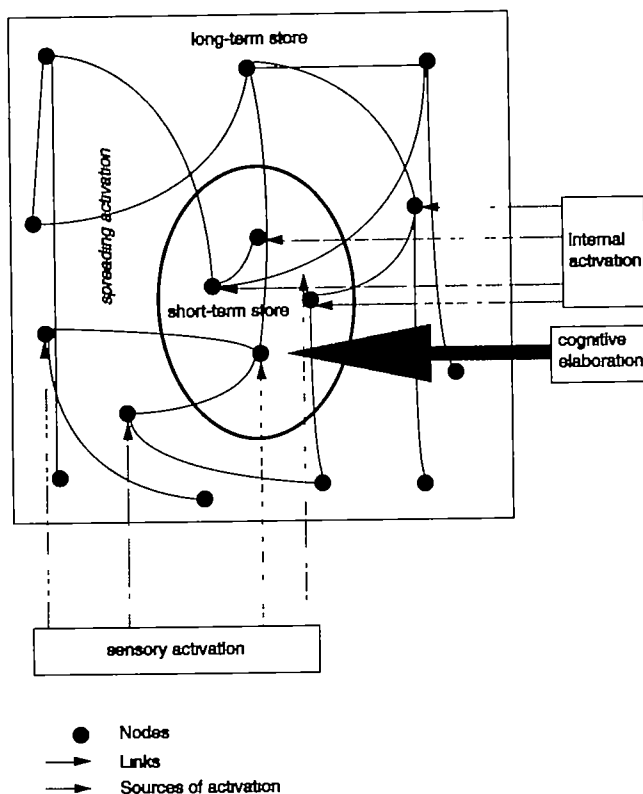
Learning

What does learning mean in such a cognitive model? In a memory conceived of as a network of nodes and links, learning amounts to adding new nodes, adding new links, and/or strengthening existing links (e.g., learning about new products or product attributes, learning that a product possesses a certain attribute, or reinforcing an existing belief that a product possesses this attribute). Adding new nodes means that some configuration of nodes and links becomes uninitialized, because it is always activated simultaneously. At a basic level, every piece of new information can be conceived of as a new combination of old information: The information about the new product may only involve forming a new link between a known product category and a known brand name. Generally, then, learning in a network model of memory is changing the strength of links between memory nodes.

It is assumed that learning requires that the nodes to be linked must simultaneously be present in the short-term store. This implies that learning is contingent on strategic processing and hence subject to capacity limitations. In addition, learning is stronger the more the new information has been strategically processed. The degree of learning thus depends on the cognitive elaboration (i.e., conscious thought processes [strategic processes], which operate on perceived information during learning) of the links to be made between the cognitive categories in question—for example, wondering why company X has now moved into product category Y or why there is still another variety of product category Y introduced by brand X, causes better learning than only noticing that brand X belongs to product category Y.

This notion of cognitive elaboration is similar to the levels of processing concept introduced by Craik and Lockhart

FIGURE 2
Attention, Perception, and Learning



(1972). They argue that storage is better the deeper the stimuli residing in short-term store have been processed and that rehearsing, which previously was believed to be a prerequisite of learning, actually is only the most shallow form of processing, and thus results in comparatively weak learning (see also Greenwald and Leavitt 1984; Tyler et al. 1979). Cognitive elaboration includes multimodal learning as a special case: The well-established fact that the instruction to learn verbal material with the help of mental imagery improves learning (Paivio 1986; Ruge 1988) can be interpreted as a special (and especially effective) case of how strategic processing of the to-be-learned material improves learning and is one that is widely used in advertising.

Learning, as presented here, is thus usually associated with conscious processing. However, the degree of conscious processing may be low, as when the material to be learnt is held in the short-term store only for short time spans (e.g., a few milliseconds). This may be true for much learning in low-involvement situations and the type of learning usually explained by classical conditioning (Bierley, McSweeney, and Vannieuwkerk 1985; Gorn 1982; Stuart, Shimp, and Engle 1987), but it should be noted that even for learning by classical conditioning it has been demonstrated that conscious awareness of stimulus contingency seems to be a prerequisite for learning to occur (Allen and Janiszewski 1989; see also Insko and Oakes 1966; Petty and Cacioppo 1981). In Figure 2, I summarize graphically the view on attention, perception, and learning that has been promoted here.

Automatic and Strategic Processes in Retrieval and Information Use

Although attention, perception, and learning are prerequisites for advertising effects, the bottom-line criteria for advertising effectiveness are its effects on brand evaluation and, eventually, purchase. The distinction between automatic and strategic processes can also shed some light on how information, once learned, is retrieved and used. First, I make some general remarks on information retrieval and use. Second, I discuss some more-specific implications for information use in a product evaluation situation.

Explaining Information Retrieval by Automatic Spreading Activation and Strategic Perspectives

Information retrieval can be explained by the same automatic spreading activation mechanism that was used to explain attention and perception (Anderson 1983a, b). I previously mentioned that the level of activation of a memory node is linked to consciousness: When the degree of activation surpasses a certain threshold, the piece of information represented by that node becomes conscious. Hence, activation spreading in a memory network, resulting in that part of the information in that network becoming conscious—being “remembered”—is a simple and effective way to model information retrieval. Whether a certain piece of information (e.g., a brand name) actually is retrieved, then depends on two sets of factors:

1. Start activation pattern: the pattern of activation prevailing in the memory network at the beginning of the retrieval process;
2. Cognitive structure: the structure of nodes and links and the strengths of the links.

The likelihood that a particular piece of information will be retrieved is higher the more associations there are in the memory network, direct or indirect, between this piece of information and those memory nodes that were highly activated when the retrieval process started and the stronger these associations are. When asked to name brands of toothpaste, the likelihood that the name of a particular brand will be retrieved hence depends on the strength of the association between the brand name and the cognitive category of toothpaste. This association can be direct or indirect (e.g., by linking toothpaste to dental hygiene and linking dental hygiene to the brand name). If the brand name is associated with a certain advertising theme—a person, an environment, a feeling—and when this theme is repeated in the retrieval situation, then it has an impact on the start activation pattern, and the likelihood of retrieving that brand name increases.

Automatic processes in retrieval have been widely studied, especially in the context of forced recall (Ericsson and Simon 1980; Gillund and Shiffrin 1984; Raaijmakers and Shiffrin 1980, 1981; Strube 1984)—such as the kind of retrieval process initiated by a recall test of advertising. In such a test, the interviewer question, together with other information of pertinence to the respondent at the time of questioning, results in a start activation pattern. Activation then spreads rapidly in the network, possibly resulting in the level of consciousness being surpassed for some memory nodes so that some information is remembered (i.e., enters short-term memory). Then, the respondent, by strategic pro-

cessing, determines whether the retrieved information is an appropriate answer to the question and decides whether to utter that information. In such a forced retrieval situation, it may happen that no appropriate answer is retrieved. The respondent may then consciously try to give the retrieval process another direction (i.e., create a new start activation pattern and thus give the retrieval process a different strategic perspective). As an example, when asked for brand names of beer, a person's possible strategic perspectives may include activating various countries of origin, recent drinking occasions, various shops selling beer, and so on.

Hence, retrieval is determined by both automatic and strategic processes. Although the core process can be explained by automatic spreading activation, its result is determined by the extent to which strategic perspectives have been guiding retrieval. This extent, in turn, depends on the amount of involvement with the retrieval task. A forced retrieval task, similar to a recall test, creates high involvement and hence is more determined by strategic perspectives than is a task such as retrieving the brand of beer usually bought while writing a shopping list.

Information Use and Brand Evaluation

Once information has been retrieved (i.e., is part of the working memory), information use is mostly a strategic process. Strategic processes can then combine retrieved information, start new retrieval processes to retrieve additional information, trigger activities to acquire new information, and so on. Because these processes, as was mentioned previously, are task-specific and are readily adapted to new circumstances, their outcome is much less predictable than the outcome of automatic processes.

The most important information use when analyzing advertising effects is brand evaluation. Widely discussed in the literature on advertising and attitude change is whether brand evaluations are formed during learning or during retrieval, and, if they are formed during retrieval, whether the evaluation is subsequently stored in memory (e.g., Fazio et al. 1986; Fazio and Zanna 1978). The view advanced here points clearly in the direction that an evaluation of an object for which information is stored in memory is based on retrieving information about that object. Evaluations hence have a general and a situation-specific component. The general component results from the cognitive structure with regard to the evaluation object, which is based on previous learning and changes relatively slowly. This results in some stability of evaluations across situations. The situation-specific component arises because the information retrieved from the cognitive structure by the automatic spreading activation mechanism depends on the start activation pattern and the way the information is strategically processed once it has been retrieved.

The Activation Heuristic in Brand Evaluation

It is usually argued in spreading activation models of memory that the degree of activation received by a memory node not only determines whether it will be retrieved (i.e., become conscious), but also is used as a heuristic in the subsequent conscious information-processing task (Anderson 1976, 1983a; Anderson and Milson 1989; Anderson and

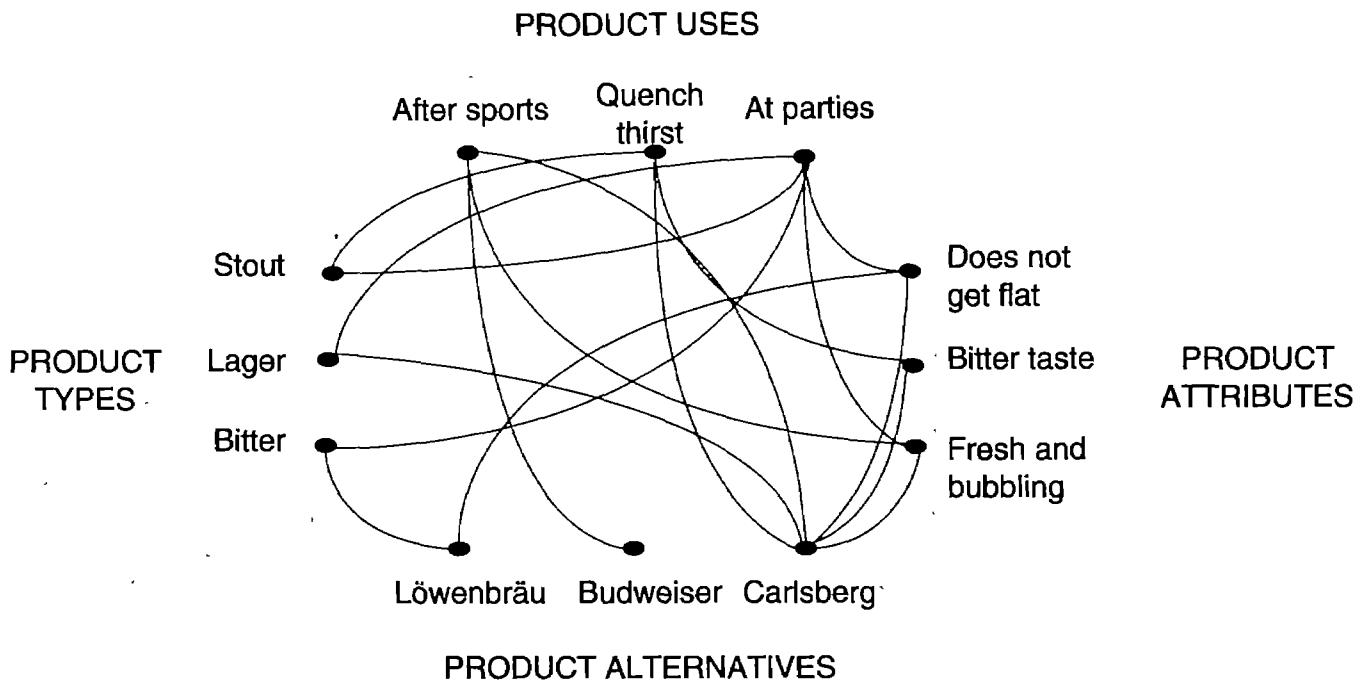
Pirolli 1984). Hence, when the task is an evaluation task, the degree of activation may be used as a heuristic for coming up with an evaluation. If the object and situation are not involving, the evaluation may be based entirely on this heuristic and then, to a large extent, will have been based on automatic processes. This occurs, for example, when a consumer is exposed in a supermarket to a range of products on the shelf and one of them is taken spontaneously without further deliberation, or when a customer is asked for a soft drink preference in a fast-food outlet: One of the alternatives seems more appropriate, but the customer's response is given quickly, without noticeable conscious processing, and resembling the retrieval of an evaluation previously formed. When the object and/or situation are more involving, this heuristic serves as a starting point, and the final evaluation is based on the extent to which additional retrieved information and/or new information support, oppose, or modify the initial evaluation.

The notion of degree of activation as a heuristic for evaluation becomes more plausible when some assumptions about the cognitive structure are made. It is usually assumed that purchase-relevant cognitive structures include elements such as product alternatives, product attributes, product uses, or consequences of product use (this is most clearly developed in means-end chain models of cognitive structure; e.g., Gutman 1982; Olson and Reynolds 1983; Peter and Olson 1990; Walker and Olson 1991), but the basic ideas already can be found in Fishbein and Ajzen's (1975) concept of cognitive structure in attitude theory. Assuming there is a cognitive structure like the one in Figure 3, a question such as, "Which brands of beer do you like to drink at parties?" results in an activation of the product use "drink at parties." From there, activation spreads to some of the brands. The amount of activation received by the various brand nodes is then determined by

- The extent to which there are strong associations between this brand and the use and/or consequence; and
- The extent to which there are strong associations between this brand and product attributes, which in turn are associated with the use and/or consequence.

In a network like the one in Figure 3, the spreading activation mechanism therefore acts much like a linear evaluation model: The amount of activation received by a particular brand node is determined additively by the extent to which this brand is associated with attributes weighted by their importance for particular uses and/or consequences (this parallelism between spreading activation in a memory network and linear decision rules has been discussed in detail by Grunert [1982, 1989a]). However, the resulting activation of the brand node also depends on the start activation, which can, for example, put different emphases on various uses and/or consequences, and the final evaluation depends on the extent to which the activation heuristic is modified by additional strategic processing. It also should be noted that the start activation can be modified by sensory input in the evaluation situation—for example, point-of-purchase displays may be external sources of activation, which may facilitate the retrieval of information and affect evaluation. The present view on brand evaluation is summarized in Figure 4.

FIGURE 3
Example of a Purchase-Relevant Cognitive Structure



Automatic and Strategic Processes in Advertising Effects

Determinants of Attention

Whether advertising attracts attention has been analyzed mainly with regard to the "mechanical factors" of advertising (Hendon 1973), such as size, color, sound, and placement. According to my framework, these mechanical factors affect the degree of external activation emanating from an advertisement (for a review, see Diamond 1968; Finn 1988; MacInnis, Moorman, and Jaworski 1991; and for examples, see Hanssens and Weitz 1980). Attention is determined by the sum of external and internal activation, with the amount of internal activation depending on the extent to which the advertisement can unconsciously be linked to existing cognitive categories and the situational personal relevance of these cognitive categories. This leads to the following two propositions:

- P₁: Advertising to which a recipient is exposed will be automatically processed with regard to personal relevance, and the higher the personal relevance, the higher the probability of conscious attention.
- P₂: Advertising to which a recipient is exposed will be automatically processed with regard to stimulus recognition, and the better the match between cues in the advertising and cognitive categories of the recipient, the higher the probability of conscious attention.

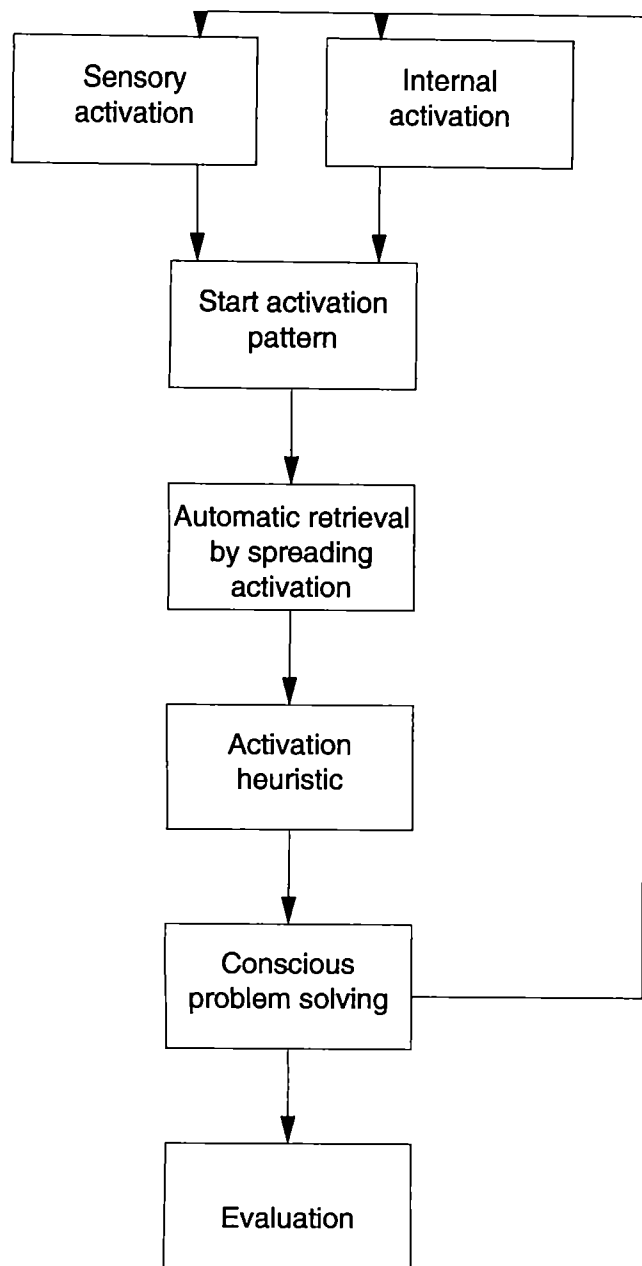
The role of personal relevance in advertising effects has been explored before (e.g., Okechuku 1992; Petty and Cacioppo 1979; Petty, Cacioppo, and Goldman 1981; Petty, Cacioppo, and Schuman 1983; Zinkhan and Muderrisoglu 1985) but mostly with regard to the effect of personal relevance on persuasion or attitude change. Although, in the

aggregate, a higher proportion of recipients attending to an advertisement would, all else being equal, probably also result in higher degrees of persuasion, the effect is confounded with the higher degree of subsequent cognitive elaboration, to which a high personal relevance leads, as well. Also, most of these experiments have used a forced exposure situation, which more or less ensures conscious attention to the stimuli presented. Here, it is argued that the determination of relevance takes place *subconsciously*, that is, has taken place before conscious cognitive elaboration even starts.

A better match between cues in the advertising and cognitive categories of the recipient usually implies that the more the recipient is familiar with the object advertised and the more elaborate is his or her cognitive structure about it, the higher is the chance of attention. There have been a few studies looking at the relationship between familiarity and recall (Okechuku 1992; Zinkhan and Muderrisoglu 1985). Again, recall unfortunately is a combined measure of attention and learning, and though a higher proportion of attention, all else being equal, would lead to a higher proportion of recall, again there are the confounding effects caused by conscious cognitive elaboration.

Thus, it is claimed that a great deal of advertising is processed unconsciously. Formal or physical characteristics of advertising contribute to attracting attention, but the substantive contents of the advertising have a major impact on whether attention is attracted. Providing the right substantial cues in advertising is hence a question of importance not only for the message to be learned once attention is attracted, but also for the attraction of attention itself. The "right" cues are those that are so familiar that automatic recognition can work and those that are linked automatically

FIGURE 4
The Brand Evaluation Process



to cognitive categories that are subjectively relevant at the time of exposure.

This has both obvious and subtle consequences. Among the obvious consequences is the importance of context in the exposure situation. Context has a priming effect: If advertising is embedded in a program or magazine that is related to the topic of the advertisement, then perception of the context facilitates perception of the advertisement. The more immediate is the relationship between context and advertising, the stronger is the facilitating effect. This facilitating effect of semantic priming on the perception of stimuli is experimentally well-documented and has been used many times to investigate properties of the spreading activation mechanism (e.g., Balota 1983; Balota and Lorch 1986; Conrad 1974;

Warren 1977). If, for example, an advertisement for wine is placed in a gourmet magazine, potential recipients' cognitive categories relating to gourmet meals—which probably includes categories relating to wine—have a high degree of activation while reading the magazine. Reading the magazine thus “primes” cognitive categories related to wine, thereby facilitating the unconscious processing of advertising related to wine.

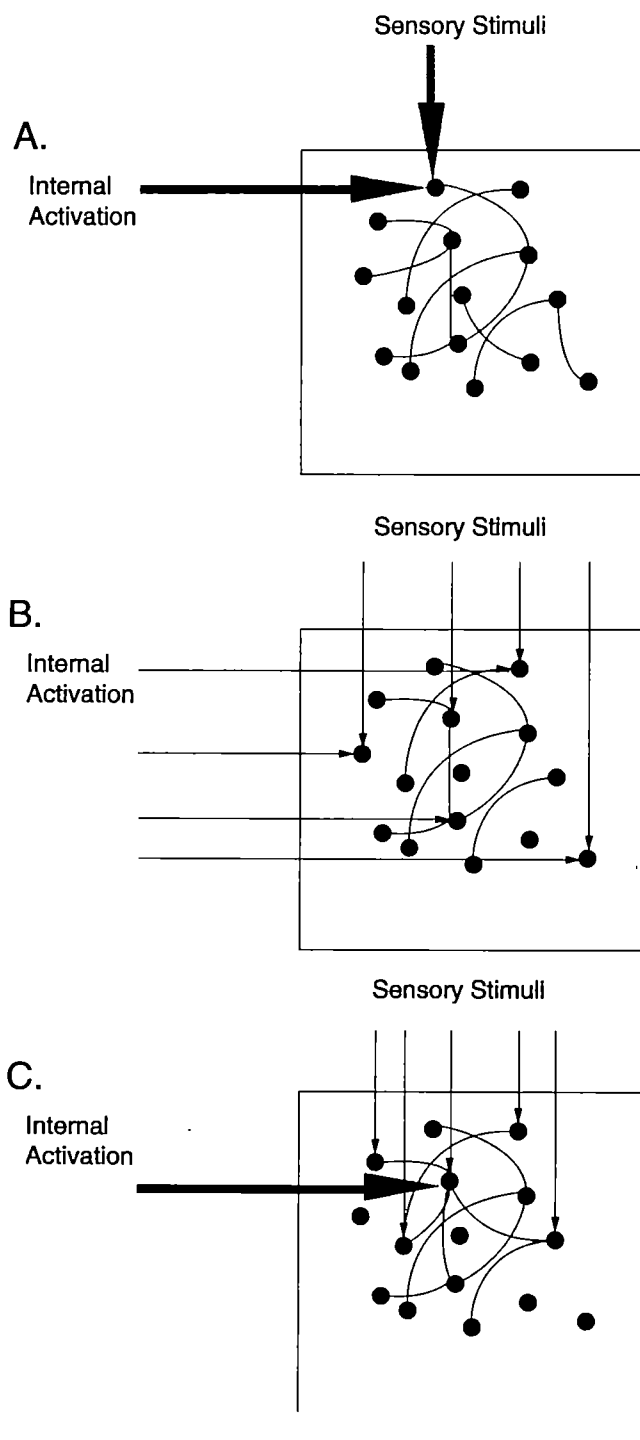
One of the subtle implications concerns the role of novel and ambiguous stimuli. Novelty and ambiguity are many times mentioned as potential attention-getters (MacInnis, Moorman, and Jaworski 1991). However, novel and ambiguous stimuli are by definition less familiar, and familiarity is a prerequisite for automatic recognition, which again is a prerequisite for the automatic relevance judgment. What novelty and ambiguity hence achieve is that automatic stimulus recognition does not work. If it is a strong stimulus, this may induce conscious processing, which tries to resolve the ambiguity or understand the novelty. Research shows that this is especially the case in instances when the stimulus is physically different from what a person usually expects from a given channel of information (Cowan 1988). If such novelty succeeds in attracting attention, the relevance of the advertising can then be assessed. But many times such an advertisement, though potentially relevant to the recipient, may not be attended to, because it was not possible to assess its relevance automatically. Resolving ambiguity or understanding novelty, both strategic processes, are subject to capacity limitations, and the amount of advertising that is processed in this way is necessarily small. This argument may be summarized in the following proposition:

P₃: Stimulus ambiguity and novelty inhibit automatic processing of advertising and thus decrease the probability of attention and perception.

Stimulus ambiguity and novelty may still have positive effects on learning—once the threshold of attention is surpassed. Again, it is found that the confounding of attention and learning blurs an understanding of advertising effectiveness because of the different types of cognitive processes at work in attention and learning.

The different modes in which automatic and strategic processes work also have implications for the basic question of how much information to put into advertising. In designing advertising, the attention span problem is commonly named: Because information processing capacity is limited, the amount of information in advertising should be limited as well so that there is a chance for the message to be understood in the limited time usually available for processing advertising. This, however, applies only to the strategic processes that occur once the advertising has been attended to. How much information can be learned in the typical exposure situation is indeed limited. Automatic processes, however, are parallel processes that are not subject to capacity limitations. The automatic stimulus recognition processes that determine whether advertising will be attended to process all elements in the advertising simultaneously so that the attention span problem does not apply. Attracting attention and encouraging learning therefore again lead to diverging claims: To attract attention, it may be

FIGURE 5
Activation and Attention



appropriate to include as many stimuli as possible, if the stimuli can contribute to the automatic judgment of relevance. To facilitate learning, it may be appropriate to limit the number of stimuli in advertising.

A larger number of stimuli in advertising, however, increases the likelihood of attention only when the stimuli activate cognitive categories that are linked to some common area of relevance in the recipient's cognitive structure. In Figure 5, I show some hypothetical excerpts from a

respondent's memory network, along with activation resulting from advertising. Figure 5, Part A, corresponds to a simple message that is highly relevant to the receiver. The one major stimulus in the advertising results in strong activation of the corresponding memory node, which already is strongly activated internally, so that the resulting total activation is high. This is a clear case, with a high chance of the advertising being attended to and perceived. In Figure 5, Part B, the pattern that would result from advertising that includes several elements, each of which is moderately relevant but not related to each other in the respondent's memory network, is shown. Each of the cognitive categories activated by the advertising in the recipient's memory network has only moderate internal activation, and the chance of attention and perception depends on which competing stimuli there are in the exposure situation. In Figure 5, Part C, a situation is shown in which the inclusion of many elements in advertising works toward attention and perception, because they activate cognitive categories all of which are linked to a common area of relevance in the recipient's memory network. The external activation of all these elements contributes, in the spreading process, to the activation of this common area of relevance, which then most likely becomes conscious (i.e., the advertising will be attended to).

Although these effects have, to the best of my knowledge, not been studied in an advertising context, there is experimental evidence that stimuli that are automatically processed, but never reach the level of conscious attendance, nevertheless facilitate conscious attention to other stimuli to which they are semantically related (Lewis 1970). The following proposition summarizes the main argument:

P₄: Including in advertising, information beyond what can be consciously processed in the typical exposure situation may still contribute toward attention by furthering the unconscious judgment of relevance.

The area of relevance does not necessarily need to be product-related. As is well known from studies about involvement in consumer decision making (e.g., Laurent and Kapferer 1985), there are many product categories that simply are not regarded as relevant by a majority of consumers. In this case, adding other stimuli perceived as relevant by the target group, such as a celebrity endorser, enhances the possibility of attention, because the celebrity endorser may be recognized automatically and may have some relevance. For the same reason, a slice-of-life endorser usually does not enhance attention for a low-involvement product, because he or she does not correspond to a cognitive category that can be automatically recognized and/or may be judged to be of low relevance. Hence, effects of a slice-of-life endorser come about only after the advertising has been perceived, when use of such an endorser can result in a credibility enhancement. Again, the distinction between automatic processes during attention getting and strategic processes during learning leads to a refinement of propositions.

P₅: The use of celebrity endorsers may increase the automatic judgment of relevance and therefore increase the likelihood of attention. The use of slice-of-life endorsers does not affect the judgment of relevance and therefore does not affect the likelihood of attention.

Unfortunately, empirical evidence on the use of celebrity endorsers again uses mostly dependent variables, which combine the effects of attention, learning, and usually evaluation. This applies especially to work in connection with the Elaboration Likelihood Model (Petty and Cacioppo 1983; Petty, Cacioppo, and Schumann 1983; Schumann, Petty, and Clemons 1990).

Attention and Learning

As for learning, it was argued previously that learning means changing associations between cognitive categories. Learning, thus conceived, presupposes that the cognitive categories to be associated must be held in the short-term store simultaneously. This means that learning presupposes attention (even though the period of conscious attention may be short) and is not automatic. It was further argued that the degree of learning depends on the cognitive elaboration of the new stimuli. The effect of the degree of cognitive elaboration on learning has been demonstrated repeatedly in advertising contexts (for a review, see Saegert and Young 1983).

The same factors discussed in the previous section as being determinants of attention have an effect on the amount of learning, as well. However, in some cases the effect has the same direction, whereas in other cases it works in the opposite way, thereby forcing advertisers to consider a trade-off between attention getting and amount of learning once attention has been obtained.

P₆: The higher the personal relevance and the better the match between cues in the advertising and cognitive categories of the recipient, the more cognitive elaboration and hence the more learning will take place.

That higher involvement (as a measure of personal relevance) and/or higher degrees of familiarity with the product advertised lead to better learning, as measured by recall of advertisement elements, has been repeatedly demonstrated (Gardner, Mitchell, and Russo 1985; Hawkins and Hoch 1992; Okechuku 1992; Zinkhan and Muderrisoglu 1985) and also partly explained by higher degrees of cognitive elaboration (Celsi and Olson 1988; Greenwald and Leavitt 1984). Personal relevance and familiarity thus increase both attention and learning.

Trying to resolve ambiguity or understand novelty implies a cognitive elaboration of the advertising message, which results in increased learning. Novelty and ambiguity have thus both positive and negative effects: they may impede attention to the advertising, because they impede automatic relevance detection, but, once the advertising is attended to, increased learning results. The problem may be resolved by building a sufficient number of familiar and relevant stimuli into the advertising (e.g., on the product category concerned, on basic usage situations), which facilitate automatic processing and lead to a positive judgment of relevance, and supplementing this by novel and/or ambiguous stimuli that result in cognitive elaboration of message details.

P₇: Once advertising has been consciously attended to, stimulus ambiguity and novelty increase cognitive elaboration and learning.

The amount of cognitive elaboration that can take place is obviously limited by the time of exposure. Advertisements

that, because of their limited relevance and/or low perceptibility, receive attention only in short periods (e.g., milliseconds) result in minimal learning, because no cognitive elaboration can take place. Only by extensive repetition can noticeable learning be expected. Even then, learning is restricted to the most basic information (e.g., a link between the brand name and the product category). I thus expect learning to increase with number of exposures and length of exposure.

P₈: For a given set of informational cues, learning will increase with exposure time and number of exposures.

As was argued in P₄, the amount of information in an advertisement does not present a bottleneck when it is processed for determination of relevance, but it becomes a bottleneck when it comes to learning. That learning (as measured by recall) increases with repeated advertisement exposures is well documented (e.g., Cacioppo and Petty 1979; MacInnis, Moorman, and Jaworski 1991; Ray and Sawyer 1971).

It was noted in P₅ that the use of a celebrity endorser may enhance attention, especially for an advertisement lacking personal relevance. The celebrity endorser, contributing to the automatic relevance judgment, may create attention to the advertising, but the subsequent cognitive elaboration still may be low, because the product itself is not regarded as relevant. If cognitive elaboration occurs, it refers to the celebrity, thus resulting in learning about the celebrity, but not necessarily about the product. Only by establishing a relevant link between the celebrity and the product will learning about the product itself also be increased. This may be difficult with many low-involvement products.

P₉: Use of a celebrity endorser will not lead to cognitive elaboration of the product or service advertised and will therefore not enhance learning about the product or service unless the celebrity is substantively supportive of the product claims made.

This proposition reconciles classical conditioning effects with cognitive learning effects. Mere contiguous presentation of two stimuli (e.g., a product and an endorser), according to the classical conditioning paradigm, has weak learning effects, the stabilization of which requires many repetitions. The effects are weak, according to the present view, because advertising employing a conditioning strategy usually pairs stimuli which are difficult to relate to each other cognitively. Learning can be based only on the mere contingency of the stimuli in working memory, and it is not enforced by cognitive elaboration of that contingency. Adding a link between the stimuli that the receivers of the message regard as relevant results in cognitive elaboration and increased learning. Learning by conditioning is hence just a form of learning with a low degree of strategic processing. It is not qualitatively different from cognitive learning.

Advertising, Attitude Formation, and Brand Evaluation

Once advertising has been attended to and some information learned, the question is, Which consequence does the distinction between automatic and cognitive processes have for

the use of that information in evaluating what has been advertised? It has been most common in advertising research to look at the relationship between cognitive structure and brand evaluation by means of the attitude concept. The widely used Fishbein model and its variants (Fishbein and Ajzen 1975; see the overview of applications relevant to advertising in Geise 1984; Grunert 1989b; Sheppard, Hartwick, and Warshaw 1988) postulate that the evaluation of an object, called *attitude toward that object*, is based on the cognitive structure toward that object. Attitude models of the Fishbein type are, however, not explicit with regard to which types of cognitive processes lead from the information in the cognitive structure to the evaluation. The analysis of automatic and strategic processes in information retrieval and use allows for a better understanding of the stable and the situation-specific elements in the formation of evaluations.

Brand evaluation is the result of both automatic and strategic cognitive processes, and the relative importance of the two varies. First, brand evaluation is the result of an automatic spreading activation process. This process results in the cognitive representation of the brand in memory receiving a certain level of activation, which serves as an evaluation heuristic. Second, this heuristic may then be processed further strategically, and in the course of strategic processing, information may be retrieved from memory by additional spreading activation processes.

It follows that there can be no direct link between advertising and brand evaluation or brand attitude. The effect is mediated in several ways. The preadvertising cognitive structure and the changes in it caused by learning due to the advertising result in the cognitive structure that forms the basis for brand evaluation. In addition, as was argued previously, brand evaluation is influenced by situation-specific start activation patterns, sensory activation in the evaluation situation, and strategic processing. Hence, it may actually be misleading to talk about advertising's effect on brand evaluation. It may be more meaningful to talk about advertising's effect on cognitive structure, because this will be the stable effect that advertising can have and that will affect brand evaluations across the situation-specific influences.

Brand evaluations or attitudes are more stable and more directly related to cognitive structure, the less strategic processing occurs during brand evaluation (i.e., the less the activation heuristic is modified by conscious problem solving). Therefore, the effect of advertising on brand evaluation should be more stable for products that are low in personal relevance.

P₁₀: The higher the degree of personal relevance of the product or service advertised, the more strategic processing will occur during brand evaluation, and the less stable will the effect of the advertising on the attitude toward the product or service advertised be.

However, even when the product or service advertised has a high degree of personal relevance, a high degree of familiarity and an elaborate cognitive structure will result in an activation heuristic, which is based on such a considerable amount of unconscious information processing that it may be regarded as sufficient basis for an evaluation; this can be expected to be the case when, among a set of alter-

natives of which the person is consciously aware, the amount of activation received by one of them is much higher than the amount of activation received by all others (in attitude measurement this would appear as polarized attitudes; cf. Grunert 1982).

P₁₁: The higher the degree of familiarity with the product or service category advertised, the less strategic processing will occur during brand evaluation and the more stable will the effect of the advertising on the attitude toward the product or service advertised be.

The view on brand evaluation and attitude formation advanced here is directly relevant to the mere exposure effect and the controversy between Zajonc (1980, 1984) and Lazarus (1982, 1984) on the primacy of cognition versus emotion, which has raised interest also in the marketing literature (Janiszewski 1993; Poiesz 1983; Tsal 1985; Zajonc and Markus 1982, 1985). Briefly, Zajonc maintains that an emotional response (including evaluation) can occur without cognitive processing. Lazarus, while agreeing that a conscious cognitive process may not be necessary, argues that unconscious cognitive processes always precede emotional response. Spreading activation provides a model of these unconscious cognitive processes and shows how they interact with conscious cognitive processes in leading to evaluations. It explains the mere exposure effect as a special case of the activation heuristic: Just strengthening an association between a brand and a product category can, in a situation in which cognitive structure around that product category is weakly developed and the product has low involvement, result in the activation heuristic for the brand being highest in an evaluation situation.

P₁₂: Mere exposure to a brand name can result in a more positive attitude toward that brand if the cognitive structure is weak and if the evaluation situation is characterized by a low degree of strategic processing.

It is usually assumed that the number of beliefs or attributes consumers use when forming an evaluation or attitude is limited. This, however, applies only to strategic processing. Because spreading activation is a parallel process, there is no limit to how much information on which the activation heuristic can be based. This implies that though the amount of information that can be learned in any particular exposure situation is limited, there are no limits to how the cumulative effect of several varied advertising messages can affect the automatic part of brand evaluation. For the design of advertising messages, especially for low-involvement products, this has the implication that a variation over time in the message made may be preferable over a heavy repetition of the same message, because it avoids fatigue and boredom but still can create positive effects on brand evaluation—even though no particular sales argument leaves strong traces in memory.

P₁₃: A positive product evaluation will be furthered by learning either a few strong or a large number of weak associations between the product and relevant product characteristics. There is no limit to the number of such associations, which can affect product evaluation in the automatic part of the evaluation process.

We have earlier discussed the effects of a celebrity endorser on attention and learning. The effect of a celebrity

endorser on brand evaluation also can be taken apart into one brought about by automatic and one brought about by strategic processes. Because a celebrity endorser increases the likelihood of attention, the use of celebrity endorsers increases the chance of learning about the existence of the brand name, which results in a mere exposure effect. A positive effect of a celebrity endorser on attitude formation in a low-involvement situation (as observed, for example, by Petty, Cacioppo, and Schumann 1983) may thus actually be a hidden mere exposure effect. In a situation with more involvement, in which strategic processing is more pronounced during brand evaluation, the celebrity may have a positive impact on brand evaluation to the extent that it is substantively linked to the product or service advertised (e.g., giving greater credibility to claims made because of the celebrity's expert status).

P₁₄: Celebrity endorsers may enhance brand evaluation in low-involvement situations by facilitating a mere exposure effect. They may enhance brand evaluation in high-involvement situations when they result in cognitive elaboration that is supportive of advertising claims made.

Summary of Propositions

In Figure 6, I summarize the propositions made in the preceding sections. As can be seen, the distinction between automatic and strategic processes enables me to dissect the influence of the major factors discussed here—personal relevance, familiarity (match between cues in advertisement and recipient's cognitive categories), ambiguity or novelty, amount of information in the advertisement, and use of endorser—in such a way that their differential effect on attention, learning, and brand evaluation and attitude

FIGURE 6
Summary of Propositions on Strategic and Automatic Effects In Advertising

Determinant	Attention	Learning	Evaluation and Attitude
Personal relevance	P ₁ : Increases attention	P ₆ : Increases learning	P ₁₀ : Leads to less stable effect of advertising on evaluation and attitude
Familiarity (match advertising cues and cognitive categories)	P ₂ : Increases attention		P ₁₁ : Leads to more stable effect of advertising on evaluation and attitude
Ambiguity and novelty	P ₃ : Decreases attention	P ₇ : Increases learning	—
Amount of information in advertisement	P ₄ : Can increase attention under certain conditions	P ₈ : Limits learning, given time and frequency of exposure	P ₁₂ : Minimal information (mere exposure) can lead to more positive evaluation and attitude under certain conditions P ₁₃ : No limit on amount of information that can be used in the automatic part of evaluation and attitude formation
Use of endorser	P ₅ : Can increase attention	P ₉ : Will not increase learning unless supportive of product claims	P ₁₄ : Can lead to more positive evaluation and attitude by facilitating mere exposure effect or when supportive of product claims

becomes clearer. In several instances there are, for example, trade-offs between attention getting and learning.

In discussing these propositions, I identify instances in which existing empirical work on advertising effects fits in.

However, the distinction between automatic and strategic processes is new to the analysis of advertising effects, and it is hoped that the present exposition stimulates new research that makes use of this framework.

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The Static and Dynamic Mechanics of Competition: A Comment on Hunt and Morgan's Comparative Advantage Theory

The author provides constructive criticism of Hunt and Morgan's (1995) promotion of the dynamic disequilibrium paradigm and explains why their comparative advantage and market orientation theory is not dynamic enough. He discusses what creates market diversity and comparative advantage, why competitive markets are more efficient, how competitive markets fail, and how management of failed markets can fail. The author's goal is to demonstrate the explanatory power of the dynamic paradigm and encourage the use of it to focus on how firms can learn to improve their competitive processes.

Hunt and Morgan (1995) (hereinafter termed H&M) make several important contributions to the marketing literature with their critique of the neoclassic competitive equilibrium paradigm, their promotion of the dynamic disequilibrium paradigm (hereinafter called the ∂ paradigm¹), and their theory of competition. Although H&M acknowledge that several devastating and comprehensive critiques of the established paradigm have appeared in the economics journals, it is useful for the marketing field to have readily available their cogent critique of the underlying premises of orthodox microeconomics thinking. Marketers continue to see published research in marketing that uses the equilibrium paradigm and premises to derive elegant mathematical models that, in turn, lead to prescriptive rules as to how firms should behave.

Having offered an alternative theory of dynamic disequilibrium (Dickson 1992, 1996) it would be disingenuous for me not to support H&M in their advocacy of the ∂ paradigm. More to the point, whatever the relative merits of our theories, marketing is the art and science of creating change (disequilibrium) in markets in such a way that the change benefits the firm (or an alliance of firms) and, consequently, comparatively "*disadvantages*" rivals. If a market is in equi-

librium, marketers are not doing their job. Marketing practitioners live and die by the ∂ paradigm.

I found H&M's theory of comparative advantage stimulating and provocative, which brings me to the purpose of this comment. Although I accept and applaud much of H&M's work, my fundamental concern is that their theory of comparative advantage and market orientation lacks explanatory power because it is not dynamic enough. In the spirit of constructive criticism, I here discuss what creates market diversity and comparative advantage, why competitive markets are more efficient, how competitive markets fail, and how management of failed markets can fail. The goal is to demonstrate the power and precision of the ∂ paradigm and encourage scholars, policymakers, and practitioners to use the paradigm to focus on how firms learn to improve their key competitive processes.

Rates of Change in Supply and Demand

That consumer tastes, preferences, and behavior are always changing together with the offerings of suppliers means that comparative advantage itself must be a dynamic construct. A dynamic theory of competition, which H&M aspire to develop (p. 8), must focus on heterogeneity in the *rates of change* (i.e., the dynamics) of supply and demand and not on the current *level* of heterogeneity in supply and demand. This requirement reveals the fundamental paradigmatic ambiguity of H&M's theory. It does not fully embrace the rate-of-change ∂ paradigm in its explanation of comparative advantage. For example, H&M's Figure 1 is a static or state model of the relative competitiveness of a firm's offering. This can be contrasted against the ∂ paradigm, whereby companies are constantly striving to move from one competitive advantage to another (D'Aveni 1994). For example, the race to compete in the notepad computer market is one

¹ ∂ , or delta (the Greek d), is a symbol of change in calculus and dynamic mechanics. In its use here it also stands for the d in dynamic and the d in disequilibrium.

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of constant improvement in product speed, memory, battery life, weight, picture quality, picture size, mouse design, durability, and cost, which reflects a race between the leading companies to improve their design, manufacturing, supply-chain, distribution, and selling processes. With each innovation-imitation cycle, the leadership may change (and has changed), and the race gets faster and more demanding. Few markets are so dynamic, but even mundane markets change as some innovation-imitation is always occurring in product and process design (even if only by reducing the costs of production processes).

The dynamic impact of changing supply on demand and changing demand on supply can be mathematically described as (Dickson 1992, p. 71, footnote 2; 1995a, p. 97)

$$(1) \quad \{\partial d_i/\partial t: i = 1, \dots, n\}_{t+1} = f(\{\partial s_j/\partial t: j = 1, \dots, m\}_t), \text{ and}$$

$$(2) \quad \{\partial s_j/\partial t: j = 1, \dots, m\}_t = g(\{\partial d_i/\partial t: i = 1, \dots, n\}_{t-1}),$$

where $\partial d_i/\partial t$ equals change in demand of buyer i , $\partial s_j/\partial t$ equals changes in the supply function of supplier j , and $\{\}$ indicates the set of demand and supply functions across all n buyers and m sellers. Assuming the reasonable premise of response heterogeneity—that is, $\partial d_i/\partial t$ varies across i (some buyers adopt new products faster than others) and $\partial s_j/\partial t$ varies across j (some suppliers learn and adapt processes faster than others)—the interactive effects between and within response vectors $\{\partial d_i/\partial t\}$ and $\{\partial s_j/\partial t\}$ are guaranteed to continue to amplify or ripple into future time periods. These iterative interaction effects create a complex system that will never come to rest in a state of equilibrium and, hence, cannot be so specified (Day 1987). Entrepreneurs find ways to exploit characteristics of this ever-changing disequilibrium through innovation-imitation (Dickson 1992; Hayek 1978; Kirzner 1985; Schumpeter 1934), and their new initiatives create fresh higher-order amplification or ripple effects.

When the aforementioned sets of seller-supply functions or buyer-demand functions exhibit regularities, then these regularities are called *path dependencies* (Arthur 1994; Dickson 1995a). Path dependencies are systemic negative or positive feedback effects that create trends in supplier or buyer behavior. For example, the systemic diffusion processes in a market in which suppliers imitate each other and consumers imitate each other is a common positive path dependency (amplification) effect (see Robertson and Gatignon 1986). As a market progresses through a series of supply and demand path dependencies, the competitive focus of the market shifts to new innovation-imitations in different products and processes. Another way of putting this is that the crucial quality and cost drivers of the products and processes within the market change. The introduction of 75 varieties of grind-your-own gourmet coffee beans has created such a new path dependency in the coffee market (Moukheiber 1995). By giving away over 10 million copies of its Navigator software, Netscape may have created a standard for commercial Internet use (a supply and demand path dependency) that favors the firm. Investors were at least betting on this happening in 1995. Circuit City's CarMax, a used-car superstore, may create a new path dependency in the \$275 billion used-car market and maybe even in the new-car market. Such positive path dependency

effects generally increase the efficiency of markets over time.² The exceptions (i.e., market failure) occur when a market pursues a product or service feature path that is less desired by buyers than an alternative feature or when a combination or coupling of market path dependencies leads to a monopoly (i.e., elimination of all competition). How markets evolve along different types of path dependencies, how they might become more efficient, or how they might fail can be studied through simulation (Farris, Verbeke, and Dickson 1995; Nelson and Winter 1982).

Hunt and Morgan effectively propose that heterogeneity in the set of individual consumer demand functions, $\{d_i: i = 1, \dots, n\}$, leads to heterogeneity in the set of individual seller supply functions, $\{s_j: j = 1, \dots, m\}$, where heterogeneity across supply functions is measured on dimensions such as size and scope. In more general terms, this relationship can be mathematically described as

$$(3) \quad \{s_j: j = 1, \dots, m\}_t = g(\{d_i: i = 1, \dots, n\}_{t-1}).$$

By comparing Equation 3 with equations 1 and 2, we can contrast it with my theory of competitive rationality and see how H&M's theory can be made more dynamic. Hunt and Morgan consider states of heterogeneity of demand and supply rather than heterogeneity in rates of change of demand and supply (i.e., variance in individual and market learning on both the supply and demand side). I now demonstrate the significance of this distinction by using it to explain what creates the "macro and micro" phenomena of market diversity, comparative advantage, and market efficiency.

How and Why Competitive Markets Are Diverse

When the rate of change of the supply functions of firms (i.e., $\{\partial s_j/\partial t: j = 1, \dots, m\}$) varies across different aspects of the firms' supply functions because of the variance in their present and past higher-learning capabilities, firms' supply functions will become diverse. This might seem at first to be a descriptive truism—if firms are changing in different ways at different speeds, then this must produce diversity. But the proposition is not always true. Again, if the changes follow a technological (supply) or a demand path dependency, then such regularities in change (diffusion of supplier or buyer behavior through innovation-imitation) can lead to less diversity in supply. In organization learning, such path dependencies have been called *selection and retention* processes and are well documented (see Miner and Haunschild 1995). They greatly influence the structure of an industry and the diversity of its behavior.

²The conventional price equilibrium paradigm allows negative feedback effects (e.g., when demand increases, price rises and profits increase, which increases supply and lowers price again). What it cannot handle well are positive feedback effects caused by innovations in, say, products or distribution logistics that are imitated and that take the whole market down new parallel or sequential path dependencies.

What Creates Comparative Advantage

A theory of dynamic competition should not be based on assumptions, premises, and propositions that describe static market states. A theory of dynamic competition must describe how markets change and what dynamics create the change. Hunt and Morgan suggest this by using words such as *history* and *lead to*. To illustrate, different firm scales and scopes, as described by Chandler (1990, 1993), can be explained by their innovation and imitation learning history in a market, which determines the rate of change in their supply function over time ($\partial s_j/\partial t$), which determines their supply function (s_j) at any time. Scale and scope are characteristics of s_j . Similarly, the comparative or resource advantage of a firm's supply offering, which is measured in terms of cost and value and is framed in H&M's Figure 1, is determined by $\partial s_j/\partial t$, which is determined by a firm's learning capabilities.

A firm can learn by simple S-R reinforcement processes, mindless imitation processes, and accidental experimentation (Alchian 1950; Miner and Haunschild 1995), but such learning processes leave much to chance. A firm's higher-order learning processes (*complex resources* in H&M's terms) are defined as the processes and systems instituted within the firm that deterministically drive the continuous improvement in all of the firm's products and processes and, hence, determine future $\partial s_j/\partial t$ (Cohen and Sproull 1996; Dickson 1995b). Examples of such higher-order learning processes are a firm's design-do-observe-redesign experimentation processes, imitative benchmarking processes, total quality management evaluation processes, and feedback control processes (e.g., customer satisfaction tracking and activity-based costing), as are processes that reward continuous process improvement. A firm that manages such higher-order learning better than its rivals has more control over its learning, its innovation-imitation, and its likely success. There is a chance that rivals with inferior learning processes will fortuitously gain a periodic comparative advantage in the product of their supply processes, but the firm that develops and sustains superior, higher-order learning processes possesses a long-term, sustainable competitive advantage. Thus, the fundamental construct is not comparative advantage in product value and cost but is higher-order learning. To further demonstrate the value of this insight, I apply it to H&M's conceptualization of market orientation as a resource that provides a sustainable competitive advantage.

Does Market Orientation Provide a Sustainable Competitive Advantage

Market orientation describes a set of organized internal and boundary spanning processes that enable the firm to learn about, respond to, and lead changes in consumer, channel, and competitor behavior. These include competitive benchmarking processes and consultation with suppliers, distributors, and customers. Day (1994) has described how a firm can use higher-order-learning processes and principles (i.e., total quality management learning processes) to improve its

market orientation and market-driven processes.³ As H&M point out, particular market orientation processes can be readily imitated, but the culture that organizes all of the market learning processes together into a unique synergistic comparative advantage may not. But by so proposing that market orientation processes can be vicariously learned (imitated), H&M effectively answer the question as to whether a market-oriented firm can "enjoy a sustainable competitive advantage." It depends on the higher-order learning processes of the firm and its rivals; if rival firms are continuously improving their market orientation processes and culture at a faster rate than the firm, then the answer is no. What can be more confidently asserted is that it is a firm's higher-order learning processes that create and sustain its comparative and realized competitive advantages. I next apply a macroeconomic generalization of this microeconomic proposition to understanding market efficiency.

Market Efficiency

A corollary of the ∂ paradigm and competitive advantage theory is that market efficiency should not be conceptualized as a *level* phenomenon but as a *rate-of-change* phenomenon (i.e., a dynamic learning phenomenon). Thus, there is no such thing as an "efficient market." Instead, one market is relatively more efficient than another if it is faster at learning to use input resources more efficiently and effectively to increase customer satisfaction. Such learning is at the population level (Miner and Haunschild 1995) or macro level of competitive rationality (Dickson 1996). A market exhibits path dependencies in its sets or vectors of *changing* supply and demand that reflect the adoption of more efficient design, manufacturing, physical distribution, communication processes, and management systems (Chandler 1977, 1990, 1993; Dickson 1995b; Heilbroner 1993; Landes 1969; Mokyr 1990; Thompson 1993; Utterback 1994).

Why Competitive Markets Are More Efficient

This view of efficiency helps explain why, on average, the lower the exogenous management of a market, the higher the market learning and, hence, efficiency of a market. Competitive markets have endogenous (built-in) evolutionary learning advantages (Dickson 1992, 1996; Hunt 1995).

³Sinkula (1994, p. 37) has described how a firm learns to improve its core competitive advantages, competencies, or processes, such as market information processing as higher-order learning. However, in the strict meaning of the term, *higher-order learning* should describe the formal/informal, expressed/tacit processes a firm uses to learn how to learn (i.e., deuterolearning processes [Bateson 1972]). For example, higher-order learning occurs when a firm learns from market-based observation of a competitor's approach to process benchmarking or how it rewards its sales force for continuous improvement suggestions. Using market information to learn how to reduce costs or raise perceived product quality is invaluable learning, but not higher-order learning. Learning how to improve imitative learning processes or learning reinforcement processes is higher-order learning (Dickson 1995b).

They are more efficient because they learn faster.⁴ They learn faster because they are free to learn however much they choose, and the resulting variance in learning creates rewards for the firms with superior “when and how” learning capabilities. Hunt and Morgan’s explanation that innovation is rewarded in free markets describes an important learning reinforcement mechanism, but it is insufficient. For example, innovations also could be rewarded in a command economy.

The two conditions that are necessary and sufficient to create a market that has a built-in learning capability are (1) the presence of the profit motive,⁵ and (2) the absence of autocrats or cabals in the political economy that overly constrain supplier and buyer behavior. The profit motive and supplier and buyer freedom leads to heterogeneity in change in supplier behavior and buyer behavior. As equations 1 and 2 explain, heterogeneity in rates of change and learning creates a market in permanent disequilibrium, whose disjunctures are further advanced and exploited by profit-seeking entrepreneurial entities and their swift imitators. The regularities in a competitive market’s dynamic disequilibria (i.e., process and technological innovation-imitation path dependencies) lead to higher levels of market input-output efficiency. The metaphor for a competitive market is a perpetual motion machine that is perpetually learning to become a more efficient input-output machine.

To keep apace with or stay ahead of such market learning, individual firms must continuously improve their management, supply, manufacturing, distribution, and marketing processes. They must be ever more alert, ever learning and striving to serve the customer better than their rivals do (Day 1994). While waxing and waning, a competitive market is in perpetual motion, trending (along path dependencies) to ever greater efficiency and effectiveness in its use of resources. Such a trending theory is similar to theories of stop-start, punctuated equilibrium that are currently in vogue in evolutionary economics (Gersick 1991). Moreover, like biological evolution, market evolution is rapid in times of exogenous systemic shocks that create scarcity (draughts or recessions) and the introduction of predators or new competing species (Weiner 1995). But, as long as a single supplier is changing one or more of its supply processes and/or a buyer’s preferences and behavior is changing, the market is *never* in a state of supply and demand equilibrium.

How Competitive Markets Fail

Across all of its many product and service markets, a competitive market political economy is more efficient than a managed political economy because of its built-in learning capabilities. However, specific product-markets in a com-

petitive political economy may not always be as efficient as they could be or might have been. A competitive political economy’s markets trend toward more efficient use of resources, but, for a period of time, a market may pursue a path dependency that is judged (often in hindsight) to be inferior to another path that was less traveled than it could have been. One such example might be the style path dependency that the automobile product-markets pursued in the 1950s and 1960s at the expense of an innovation-imitation path focusing on vehicle safety. From the dynamic perspective, this is a form of periodic market failure.⁶ It is periodic because, as explained by the Austrian economists, the market will ultimately correct itself in the direction of more-efficient learning and investment. An innovative entrepreneur teaches the market about the inferiority of the current path through a break-through innovation that creates a new path (Hayek 1978; Kirzner 1985). In the meantime, other entrepreneurs make incremental innovations that take a market further along other existing paths.

How Management of Failed Markets Fail

The apparent periodic failure of a product-market is often used to justify the remedial introduction of constraints on the behavior of suppliers and buyers (i.e., market regulation); but such market failures cannot be used to support the general proposition that more market regulation makes markets more efficient. Furthermore, even when enlightened market regulation is pursued to correct competitive market failures, enlightened regulation itself can follow an inefficient path dependency.⁷ For example, environment regulation has followed a pollution-control path rather than a resource-productivity regulatory path (Porter and van der Linde 1995). This has misdirected the “free” market’s innovation-imitation learning processes and has consequently frustrated the advancement of efficient environment protection. Regulatory path dependencies can be particularly pernicious because they are not subject to the same correction forces as are path dependencies created by competitive market forces. For example, this has led to slow imitation (cf. private enterprise) of other states’ apparently successful new taxation policies or welfare regulation.

Even when governments attempt to boost innovation by sponsoring research and development (R&D), such efforts can lead to path dependencies that are not easily reversed. Rich countries spend over half of their \$8 billion-a-year energy research on nuclear programs and less than 10% on R&D of renewable energy sources, such as solar and wind

⁴In the opinion of a reviewer “the claimed ‘endogenous learning advantage’ is only true a fortiori (sic) in the case of extremes.” This seems an unreasonably restrictive and trivializing conclusion. Characterizing the learning advantage proposition as an “on average” generalization rather than a law allows for specific, periodic exceptions, even in the case of extremes.

⁵The profit motive includes the drive of an economic entity to survive. Recent case histories in the business press suggest that “thin-rat” survival is a stronger driver of learning than “fat-cat” profit making.

⁶As was mentioned previously, it is theoretically possible that a combination of path dependencies leads to what is called a *market bifurcation*, in which a single supplier comes to monopolize the market. But such obliteration-of-the-competition market failures (not involving collusion or restrictive trade practices) are, in actuality, so rare that it is hard to think of a single example.

⁷Because some regulation is always needed to protect contracts, reduce deceptive information, and protect third parties in product markets, it can be argued that the real question is not whether market economies are more efficient than managed economies, but rather what regulatory policies most encourage efficient free-market learning processes that take the market along desirable learning paths (see Dickson and Czinkota 1996).

power. To many economists, this does not make sense when the costs of solar and wind power have been greatly reduced by innovations and appear likely to soon become cost competitive in many usage situations (*The Economist* 1995). The focus on nuclear power R&D is likely to continue, propelled by the political power base it has created rather than by the competitive dynamics of the energy market.

Conclusion

Hunt and Morgan have written an important article that gives marketers clear directions as to which path they should not take and some provocative glimpses of a path ahead that provokes and encourages thinking about the causes and

effects of competition. Alderson (1965) and many others have criticized the homogeneity assumption and called for a dynamic theory of competition that assumes heterogeneity in demand and supply. What the theory of competitive rationality recognizes is that heterogeneity in rates of change of demand and supply across buyers and suppliers creates an ever changing diversity that moves markets toward ever higher levels of performance. Such economic evolution sometimes proceeds slowly and is hard to detect, but at other times it occurs at an extraordinarily fast pace. Understanding the higher-order learning processes of the firm and market that drive market evolution is surely an important part of a marketing executive's responsibility and skill.

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The Resource-Advantage Theory of Competition: Dynamics, Path Dependencies, and Evolutionary Dimensions

The authors respond to the thoughtful concerns raised by Dickson (1996) about the issue of path dependencies and the dynamics of resource-advantage (R-A) theory (Hunt and Morgan 1995). Rather than R-A theory and Dickson's work being inconsistent, the authors point out that Hunt and Morgan (1995) cite Dickson's (1992) work on two different occasions as support for the dynamics of R-A theory. Furthermore, because R-A theory proposes that firms seek superior financial performance, when combined with the fact that all firms cannot be superior at the same time, R-A competition necessarily is dynamic. Moreover, though the issue of path-dependencies is more contentious than Dickson suggests, R-A theory fully accommodates path dependencies, because it is an evolutionary, nonconsummatory theory.

Since its first publication (Hunt and Morgan 1995, hereafter H&M), our resource-advantage (hereafter, R-A) theory of competition has proved even more provocative than we originally expected.¹ Although the communications we have received from marketers, management scholars, economists, executives, and government officials have been generally supportive, almost everyone expresses some concerns. Similar to Dickson (1996), most have constructively criticized how R-A theory addresses specific issues. Five questions surface time and again:

1. If R-A theory is dynamic, then why does its depiction in Figure 2 in H&M (p. 9) appear so static?
2. If R-A theory draws on Austrian economics, why is there no discussion of competition as a learning process?

¹As we indicated in footnote 1 of H&M, we view *comparative advantage theory* and *resource-advantage theory* as equally appropriate labels for our theory. We have come to realize, however, that the label *comparative advantage* is so strongly associated with the comparative advantage theory of trade that many readers misinterpreted our theory as focusing on a comparative advantage in *physical* resources—the focus of neoclassical trade theory. Nothing could be further from the truth. Our theory focuses on the comparative advantage that a firm might have in both tangible and intangible resources. Indeed, organizational competencies, which are intangible resources in our view, play a major role in our theory. Therefore, because of the confusion that the label *comparative advantage* has caused, we now refer to the theory as the *resource-advantage theory of competition*.

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3. If R-A theory is process-oriented, is it also an evolutionary theory with path dependencies?
4. If R-A theory contributes to explaining the superior productivity of market-based economies relative to command economies, how does R-A theory relate to endogenous growth models?
5. If R-A theory is superior to neoclassical theory in explaining firm diversity and the differences in productivity, innovation, and product quality between market-based and command economies, how does perfect competition relate to R-A theory?

Dickson (1996) focuses on the static appearance of Figure 2 in H&M (p. 9) and the importance, for him, of higher-order learning processes and path dependencies (i.e., questions 1–3). Accordingly, our reply focuses on these issues and points readers toward other works that address questions 4–5.

Competitive Dynamics, Innovation, Organizational Learning

At first glance, Dickson's (1996) claim that R-A theory is insufficiently dynamic will strike readers as curious. After all, he argues well in his 1992 *JM* article that consumers' tastes and preferences are always changing, and we cite his article to support our view that industry demand is "significantly heterogeneous and dynamic" (H&M 1995, p. 5). We also cite his (1992) article and Jacobson's (1992) article for our view that "markets are *never* in equilibrium" (H&M 1995, p. 6). We believed that citations to his work would be sufficient and that *JM* readers would not need a recapitulation of his convincing argument on dynamics.

Nonetheless, Dickson (1996) is correct in pointing out Figure 2's deficiencies. Because the reviewing process revealed difficulties in communicating the precise nature of our theory, we believed a schematic depiction would help. Alas, though no box and arrow model ever does justice to a theory's underlying complexity, Figure 2 is even worse than

most. Dickson is also correct that we poorly explicate organizational learning processes and how competition contributes to those processes. His concern is understandable, because he views higher-order learning processes as his theory's "fundamental construct" (p. 104). Therefore, we here examine how R-A theory addresses learning processes and the sources of R-A competitive dynamics.

Higher-Order Learning Processes and Resource-Advantage Theory

In R-A theory, as Dickson acknowledges (p. 104), higher-order learning processes are complex resources that can yield marketplace positions of competitive advantage and, thereby, can result in superior financial performance. In contrast with Dickson's view that higher-order learning processes are the fundamental construct, however, R-A theory recognizes that other resources can, at times, yield superior financial performance. Surely, Dickson is not arguing that *all* firms having superior performance have mastered higher-order learning processes. Surely, the superior performance of *some* firms results from a comparative advantage in resources other than mastering higher-order learning processes. In fact, some firms could surely be skillful learners and still have inferior performance because they lack some other resource critical to success.

Despite its merit, Dickson's theory is insufficiently comprehensive for a *positive*, general theory of competition, because it has a single-minded focus on the benefits of higher-order learning processes. His work appears to function more like a normative theory that gives guidance to why

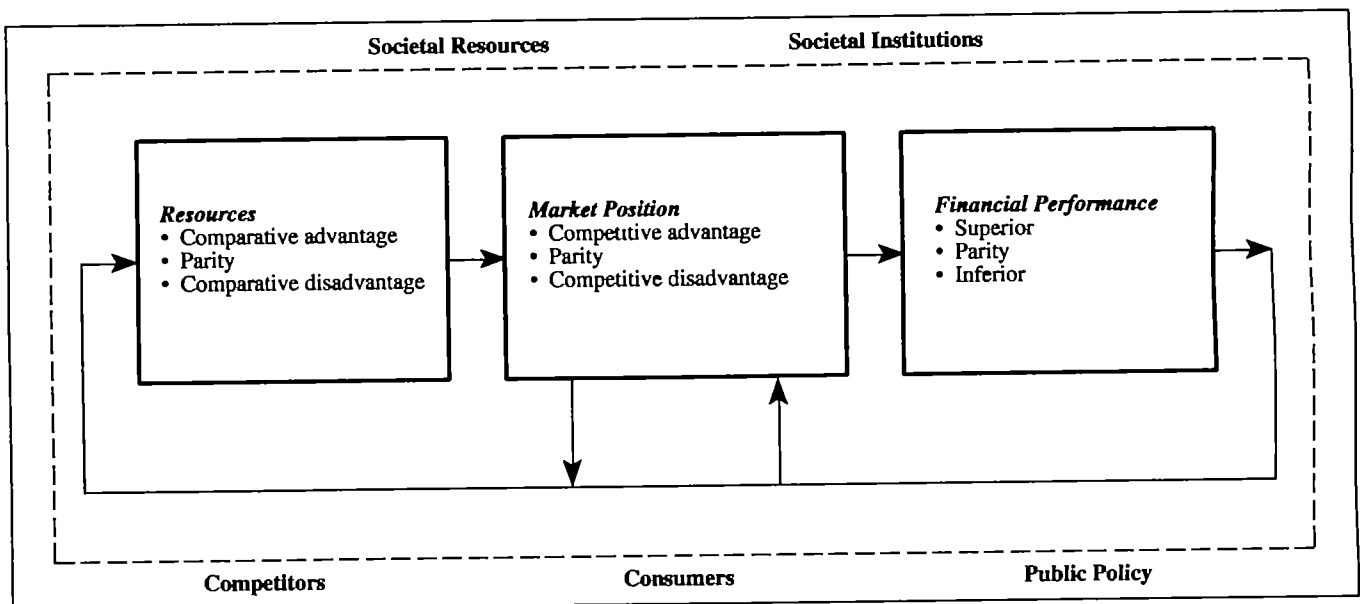
firms should implement current calls to be "learning organizations" (Day 1994; Glazer 1991; Sinkula 1994; Stata 1989; Suajan, Weitz, and Kumar 1994). Indeed, he concludes that mastering higher-order learning processes "is surely an important part of a marketing executive's responsibility and skill" (p. 106).

In contrast, R-A theory cannot restrict itself to only one resource for competitive advantage because it is first and foremost a positive, general theory of competition. Indeed, recall that the basic argument in H&M (1995) was that (1) the minimum desideratum of a satisfactory theory of competition is that it should contribute to explaining certain observed differences between market-based and command economies, (2) neoclassical economists themselves have admitted that neoclassical theory cannot explain such differences, and (3) R-A theory can. Resource-advantage theory is a positive theory that has normative implications; it is not a normative theory that is grounded in positive assumptions.

Resource-Advantage Dynamics and Innovation

Figure 1, which is adapted from Hunt (1995), is not only a superior depiction of the dynamic processes inherent in our theory, but it also explicitly portrays how organizations learn as a direct result of competition. Indeed, we point out in Figure 1 that even firms that have not mastered higher-order learning processes do *learn*—sometimes the wrong things—from competing in the marketplace. Recall that R-A theory proposes that firms have the primary objective of superior

FIGURE 1
A Schematic of the Resource-Advantage Theory of Competition



Read: Competition is the disequilibrating, ongoing process that consists of the constant struggle among firms for a comparative advantage in resources that will yield a marketplace position of competitive advantage and, thereby, superior financial performance. Firms learn through competition as a result of feedback from relative financial performance "signaling" relative market position, which in turn signals relative resources.

Source: Adapted from Hunt (1995).

financial performance. Because the term *superior* equates with both *more than* and *better than*, it implies that firms seek a level of performance exceeding some referent. For example, the specific measure of financial performance might be profits, return on assets, or return on equity, whereas the specific referent might be the firm's own performance in a previous time-period or that of a set of rival firms, an industry average, or a stock market average. Both the specific measure and referent will vary from time to time, firm to firm, industry to industry, and culture to culture.

Why do some firms enjoy (suffer) superior (inferior) financial performance? For R-A theory, superior (inferior) performance at a point in time results from occupying marketplace positions of competitive advantage (disadvantage). But such marketplace positions must come from somewhere. Resource-advantage theory proposes that they result from a comparative advantage (disadvantage) in resources, which we define as the tangible and intangible entities available to firms that enable them to produce efficiently and/or effectively market offerings that have value for some market segments. Therefore, competition is the disequilibrating, ongoing process that consists of the constant struggle among firms for a comparative advantage in resources that will yield marketplace positions of competitive advantage and, thereby, superior financial performance. Competitive processes are significantly influenced by five environmental factors: the societal resources on which firms draw, the societal institutions that frame the "rules of the game" (North 1990), the actions of competitors, the behaviors of consumers, and public policy decisions.

In R-A theory, innovation plays a key role. We distinguish between *proactive* innovation (i.e., innovation by firms in the absence of specific competitive pressures) and *reactive* innovation (i.e., innovation directly prompted by competition). Evolutionary and Austrian approaches to explaining the dynamism of market-based economies have placed great emphasis on the proactive, innovative activities of entrepreneurs in spotting opportunities and subsequently developing market offerings (Jacobson 1992; Kirzner 1979; Nelson 1995; Schumpeter 1950). Similarly, R-A theory recognizes people's entrepreneurial skills and organizations' entrepreneurial capabilities as organizational *resources*. In addition, however, it explicates the competitive process whereby such resources lead to economic change. Specifically, entrepreneurial capabilities produce economic dynamism when they produce proactive innovations that contribute to efficiency and/or effectiveness and when they result in marketplace positions of competitive advantage and, thereby, superior performance. Furthermore, R-A theory shows how, even in the absence of entrepreneurially oriented firms engaging in proactive innovation, competition ensures that market-based economic systems will still be dynamic.

Recall that R-A theory proposes that, at any point in time, competing firms are distributed throughout the nine cells of Figure 2 and that all firms seek the superior financial performance implied by cells 2, 3, and 6. Because all competing firms cannot have superior performance simultaneously, firms occupying positions of competitive disadvantage (cells 4, 7, and 8) must attempt to neutralize and/or

FIGURE 2
Competitive Position Matrix^a

		Relative Resource-Produced Value		
		Lower	Parity	Superior
Relative Resource Costs	Lower	1 Indeterminate Position	2 Competitive Advantage	3 Competitive Advantage
	Parity	4 Competitive Disadvantage	5 Parity Position	6 Competitive Advantage
	Higher	7 Competitive Disadvantage	8 Competitive Disadvantage	9 Indeterminate Position

^aThe marketplace position of competitive advantage identified as Cell 3 results from the firm, relative to its competitors, having a resource assortment that enables it to produce an offering for some market segments that (1) is perceived to be of superior value and (2) is produced at lower costs.

Source: Adapted from Hunt and Morgan (1995).

leapfrog the advantaged competitor through reactive innovation: by better managing existing resources, obtaining the same or equivalent value-producing resource, and/or seeking a new resource that is less costly or produces superior value. The time required for reactive innovation to succeed depends on, among other things, the extent to which an advantaged firm's resources are protected by such societal institutions as patents and/or they are causally ambiguous, socially complex, tacit, or have time compression diseconomies (Barney 1991; Conner 1991; Dierickx and Cool 1989; Lippman and Rumelt 1982; Nelson and Winter 1982; Peteraf 1993; Reed and DeFillippi 1990; Wernerfelt 1984).

Note that both reactive and proactive innovation depend on higher-order, *complex* resources. Note also that unlike those dynamic theories that just assume there is exogenous heterogeneity in the change (or rates of change) of some variables or theories that require proactive innovation, R-A theory explicates the process that ensures endogenous competitive dynamism even in the absence of proactive innovation. Necessity, the mother of invention, ensures economic change in R-A competition.

Organizational Learning

Firms (attempt to) learn in many ways—by conducting formal marketing research, seeking out competitive intelligence, dissecting competitor's products, benchmarking, and test marketing. What R-A theory adds to extant work is how the process of competition itself contributes to organizational learning, as the feedback loops in Figure 1 show. Firms learn by competing as a result of feedback from relative financial performance signaling relative market posi-

tion, which, in turn, signals relative resources. Through competition, firms come to know (or believe they know) their relative resources and marketplace positions.

Although firms can investigate their relative marketplace positions and resources through specific research projects, two points should be noted. First, because neither the construct of *relative market position* nor of *relative resources* is directly observable, each must be inferred from other indicators (e.g., from the relative prices that a particular market offering commands and from the estimates of relative costs). Second, only relative, overall, financial performance can provide an indicator of the efficiency and/or effectiveness of the total assortment of resources that the firm uses to produce its market offerings. After all, it is the absence of such relative performance indicators in command economies that explains much of their low productivity:

[S]ocialist planners lacked the means and motivation for discovering (a) the relative efficiency and effectiveness of extant resource assortments, (b) when and how to manage existing resources more efficiently and effectively, (c) when and where to seek alternative resource assortments, (d) when and where to redeploy existing resources, and (e) when and how to create new resource assortments (Hunt 1995, p. 327).

In short, by lacking the relative performance indicators of firms competing amongst themselves, planners in command economies lack an important source of learning: the means to know the relative efficiency and/or effectiveness of their state-owned organizations.

Our discussion of innovation, learning, and competitive dynamics can be placed in graphic relief by returning to the automobile industry example first used in H&M. In Figure 3, we show our interpretation of the competitive positions of automobile industry participants at various time-periods. In the 1970s and early 1980s, American manufacturers occupied cell 7 and Japanese car companies, which were pro-

ducing superior value at lower costs, occupied cell 3. Mercedes-Benz and BMW occupied cell 6. The inferior financial performance of American companies, relative to the Japanese, prompted their attempts to learn the "secrets" of Japanese success.

Research pointed toward several factors that potentially contributed to the superior efficiency and effectiveness of Japanese car companies, including corporate cultures promoting teamwork, just-in-time inventory systems, the treatment of suppliers as partners, and total quality management procedures. The American car companies began instituting changes (i.e., reactive innovations). Did they learn the right things? Were their reactive innovations the correct ones? (R-A theory guarantees learning; it does not guarantee learning the right things.)

Since the late 1980s, it appears that all three American car manufacturers have lowered their resource costs to below that of Japanese cars made in Japan, with Chrysler now the lowest-cost producer (Lavin 1994; Suris 1996). In addition, BMW, Mercedes-Benz, and the Japanese car companies have shifted to cell 9 as a result of their higher relative costs. But, though all three American car companies continue to improve in overall reliability, none has yet learned how to match the reliability of Japanese nameplates—whether assembled in Japan or the United States (Keller 1993). In R-A theory terms, the resources that Japanese car companies rely on continue to be imperfectly imitable by their American competitors.

In summary, as regards questions 1–2, R-A theory not only incorporates the dynamic assumptions of Dickson's work, but it also shows explicitly how the process of competition motivates proactive and reactive innovation, thus ensuring that competition will be dynamic. Furthermore, R-A theory not only incorporates Dickson's higher-order learning processes as complex resources that can yield marketplace positions of competitive advantage and, thereby, superior financial performance, but it also shows precisely how firms learn from the very process of competition itself—even in the absence of having mastered higher-order learning processes. As such, R-A theory highlights managerial implications, as well as important public policy issues facing market-based economies. For example, are firms paying attention to the financial indicators that result in an economic system that best contributes to long-term productivity and economic growth? Are firms learning the right things? Indeed, what are the things that we, as a society, want them to learn?

Path Dependencies and Resource-Advantage Theory

Path dependencies play a crucial role in Dickson's theory because, for him, they "reflect the adoption of more efficient design, manufacturing, physical distribution, communication processes, and management systems" (p. 105) and contribute to explaining the superior efficiency of market-based economies. However, the subject of path dependencies is much more contentious than Dickson's discussion suggests.²

²This is no criticism of Dickson, but a recognition of the page limitations of *JM* comments.

FIGURE 3
Automobile Industry: Competitive Position Matrix

		Relative Resource-Produced Value		
		Lower	Parity	Superior
Relative Resource Costs	Lower	1 Yugo (1980s) Hundai (1980s–90s) Chrysler (1990s)	2 Ford (1990s)	3 Japan (1970s–80s)
	Parity	4 GM (1990s)	5	6 BMW (1970s–80s) Mercedes (1970s–80s) Japan-AM (1990s)
	Higher	7 GM (1970s–80s) Ford (1970s–80s) Chrysler (1970s–80s)	8	9 Japan (1990s) BMW (1990s) Mercedes (1990s)

Since the works of David (1985) and Arthur (1989), path dependencies in economic systems have been much discussed. A path dependency occurs in an economic system when a "sequence of economic changes is one of which important influences upon the eventual outcome can be exerted by temporally remote events, including happenings dominated by chance elements rather than systematic forces" (David 1985, p. 332). The import of path dependencies is that history is important in the actual development of economies. Path-dependant processes occur because of the *network effect*, that is, when the benefit of consuming a good or adopting a technology varies directly with the number of others who consume the good or adopt the technology (Katz and Shapiro 1985). Two common examples of alleged path dependencies resulting from network effects are the adoption of the VHS (over the Beta) format in video cassette recorders and the continued use of the QWERTY over the DSK (Dvorak) keyboard.

It is undisputed that individual firms embark on paths wherein there are "systemic negative or positive feedback effects" (Dickson 1996, p. 103). (Indeed, such path dependencies occur in both market-based and command economies, for in both there are positive and negative feedback effects.) What is greatly disputed is the effect of such path dependencies on the overall performance of economic systems.

The customary interpretation of path dependencies resulting from network effects is that they pose externalities that result in a technological lock-in of an inferior technology, which prevents market-based economies from evolving toward the most efficient technologies. Therefore, in contrast with Dickson's claim that path dependencies are crucial for explaining the superior efficiency of market-based economies, economic theorists customarily argue that path-dependency externalities *prevent* unregulated market-based economies from achieving optimal efficiency. Hence, government intervention is required "because there is no guarantee that efficient firms will actually be selected in a competitive, evolutionary process" (Hodgson 1993, p. 209).

The normal counterargument to this view is that path dependencies are empirically rare. For example, Liebowitz and Margolis (1990, 1994, 1995, 1996) present strong, perhaps compelling, evidence that neither the QWERTY nor the VHS technologies were then (or now are) inferior to DSK and Beta, respectively: "The typewriter keyboard appears to be the best example where luck caused an inferior product to defeat a superior product. The story, though charming, is false" (Liebowitz and Margolis 1996, p. 31). Therefore, because the "best" examples of alleged path-dependency externalities are empirically false myths, they question whether path dependencies are a serious problem for market-based economies at all. Indeed, after distinguishing between harmless and harmful path dependencies, they (1995) provide a theoretical justification for the scarcity of real-world examples of the harmful variety.

How the literature on path dependencies will sort out is unknown. Nonetheless, we can inquire how R-A theory accommodates path dependencies, whether they result in efficiency as Dickson proposes, whether they result in inefficiencies as many economic theorists (and the popular

press) presently contend, or even whether they are rare, non-problematic, charming stories as some recent empirical works conclude. We argue that R-A theory fully accommodates the possibility of path dependencies because it is an evolutionary, nonconsummatory theory of competition.

Evolutionary Economics and Resource-Advantage Theory

Evolutionary economics has a long and distinguished pedigree. Even Marshall (1898, p. 43), one of the founders of neoclassical economics, viewed his equilibrium models as only an intermediate stage in the development of economic science: "And, therefore, in the later stages of economics, ... biological analogies are to be preferred to the mechanical." Indeed, he later referred to much of equilibrium modeling in economics as a "scientific toy" (Marshall 1925, p. 460). After a half century of, in Foss's (1991) words, suppression, process theories in economics began to grow rapidly following the seminal work of Nelson and Winter (1982). But not all process theories are evolutionary.

Dosi and Nelson (1994) and Nelson (1995) identify three key building blocks for a process theory to be evolutionary: (1) units of selection, (2) mechanisms that do the selecting, and (3) selection criteria. Of the different kinds of evolutionary theories, Hodgson (1993) points out that Lamarckian evolutionary processes differ from Darwinian ones because the former, but not the latter, admits the possibility of the inheritance of acquired characters. He also notes that ontogenetic theories, which focus on a set of given and unchanging entities, differ from phylogenetic theories, which focus on the "complete and ongoing evolution of the population, including changes in its composition" (p. 40). He then distinguishes phylogenetic, consummatory theories that have end-stages of "finality or consummation" (p. 44) from nonconsummatory theories that permit never-ending evolution. Furthermore, for those theories that sort through natural selection, the units of selection must be fairly durable and heritable, and the selection process must involve a "struggle for existence" that "encompasses a renewable source of variety and change" (p. 48) that results in the survival of the "fitter," not necessarily the "fittest" (p. 50).

In a provocative essay, Hodgson (1992) points out that both neoclassical economic theory and Marxism are claimed as consummatory: In the former, the end-stage of perfection is a Pareto-optimal, general equilibrium, which is reached by groping. In the latter, the same Pareto-optimal state of perfection is reached by a state planning board solving the "Walrasian equations" directly. Indeed, when socialist economies were argued to be at least as efficient as market-based ones because they would solve the Walrasian equations directly, neoclassical economists specializing in comparative economic systems uniformly agreed that the arguments of socialist economists were based on sound theoretical analysis (Hunt 1995; Lavoie 1985). Because both are argued to be consummatory, neither neoclassical theory nor Marxism permit path dependencies. In contrast, because the selection process in R-A theory focuses on the "locally fitter," it is nonconsummatory and permits path dependencies.

Specifically, we argue that R-A theory is a phylogenetic, nonconsummatory, evolutionary theory of competition, in

which firms and resources are the heritable, durable units of selection, and competition among firms is the selection process that results in the survival of the locally fitter, not the universally fittest.³ In brief, because firms can acquire resources, using firms and resources as units of selection means that R-A theory is Lamarckian. The selection process is locally fitter because it results in the survival of resources and firms that are, relative to particular competitors, more efficient and/or effective at a point in time in producing market offerings for particular market segments. The renewable source of variety and change is the pursuit of superior financial performance through a comparative advantage in resources that leads to marketplace positions of competitive advantage. Because not all firms can have superior performance at the same time, the source of change is *renewable*, which makes competition an ongoing, never-ending, non-consummatory process that permits path dependencies—Q. E. D.

Endogenous Growth Models and Resource-Advantage Theory

Many of those contacting us have inquired how R-A theory relates to endogenous growth models, such as those of Romer (1986, 1990, 1993a, b, 1994), Aghion and Howitt (1991), Grossman and Helpman (1991, 1994), Stokey (1991), and Young (1991, 1993). The neoclassical growth model, for which Solow (1956) won the Nobel prize, viewed the capital-labor ratio as the key endogenous variable for explaining economic growth. However, endogenous growth theorists point out that empirical works show that technological progress accounts for most economic growth. Accordingly, with Solow's (1994) concurrence, these theorists model the process of competition that produces the innovations that result in technological progress and, in turn, economic growth.

These new models imply a theory of economic growth similar to Schumpeter's (1950), in which technological progress must be endogenous. The essentials of the theory, in neoclassical terminology, are the following:

- Certain aspects of the process of monopolistic competition, including the rational expectation of rents, engender innovative ideas at the firm level.
- These competition-induced innovations, through time, result in both firm- and industry-level technological changes.
- These technological changes, by cumulatively increasing total factor productivity for the economy, constitute the technological progress that accounts for economic growth.
- Thus, the process of monopolistic competition induces technological progress through time and results in economic growth.

Endogenous growth models have two major implications for economic theory. First, if economic growth is a desirable characteristic of an economic system, then "perfect" competition, rather than being an ideal state toward which public policy should aim, is an *undesirable* state. Second, because neither Chamberlin's (1933) nor Robinson's

(1934) theory views competition as a process in which innovation results in technological progress, no neoclassical theory of competition provides a theoretical foundation for endogenous growth models.

Although space limitations prevent a full discussion here, we maintain that R-A theory relates to endogenous growth models by theoretically grounding them.⁴ In brief, it does so because R-A theory

1. views competition as an evolutionary process in real-time (rather than as a static process),
2. views technology as a nonrival, partially excludable resource in the production process (rather than as a production function freely available to all firms),
3. views innovation as an outcome of the process of competition (rather than as exogenous to competition),
4. views firms as having the rational expectation that superior financial performance results from innovations that contribute to efficiency and/or effectiveness (rather than viewing superior performance as constituting rents resulting from market imperfections), and
5. views societal institutions (e.g., the patent system) as potentially facilitating or inhibiting competition-induced growth (rather than as being superfluous to competition).

Perfect Competition and Resource-Advantage Theory

How should theories be evaluated? Since Friedman's (1953) famous defense of neoclassical theory, the standard view in economics has been the instrumentalist position that, because theories are just instruments for making predictions, the realism of a theory's assumptions is irrelevant. Only a theory's ability to make successful predictions is important: "[E]conomics is held to be only a 'box of tools,' and empirical testing can show, not so much whether models are true or false, but whether or not they are applicable in a given situation" (Blaug 1992, p. 110).

Although instrumentalism makes it improper to inquire about any neoclassical theory's truth or falsity, it is still permissible to ask, When a theory such as perfect competition predicts well, why does it do so? Friedman (1953) provides two answers: First, his "close enough" argument maintains that a neoclassical theory predicts well when its assumptions are sufficiently good approximations to the economic circumstances. Second, a neoclassical theory predicts well when the process of competition works as if the assumptions were true. For example, Friedman argues that because only the fittest survive, the process of competition ensures that those firms that do not maximize profits will, in the long-term, be squeezed out by the profit-maximizing firms. Therefore, the result is *as if* firms maximized. The *as if* argument, it must be noted, invokes an evolutionary, process view of economic systems (Hodgson 1993).

As Blaug (1992) and Hodgson (1993) note, neoclassical theory cannot be defended cogently by simply invoking the evolutionary metaphor and then claiming that natural selection will guarantee economic results as if the firms maximized. As Blaug (1992, p. 103) explains, "[W]e can no more

³For more on the evolutionary status of R-A theory, see Hunt (forthcoming).

⁴See Hunt (1996) for a discussion of how R-A theory can theoretically ground endogenous growth models.

establish from natural selection that surviving species are perfect than we can establish from economic selection that surviving firms are profit maximizers." What neoclassical theory requires is a theory of competition that explicates the process whereby certain economic circumstances could potentially result in predictions consistent with neoclassical theory. We argue that R-A theory is a process theory that can explain when neoclassical theory will (and will not) predict successfully, because R-A theory incorporates perfect competition as a limiting, special case.

Space limitations prevent a full discussion of the incorporation issue here.⁵ In brief, however, readers can verify for themselves that R-A theory incorporates the foundational propositions of neoclassical theory as limiting, special cases (see Table 1 in H&M). Furthermore, readers also can envision economic circumstances wherein firms tend to gravitate toward having parity resources producing parity marketplace offerings, which result in parity marketplace positions and parity financial performance. A key circumstance (as we discussed in the section on endogenous growth) is that all competition-induced innovation ceases and, therefore, all competition-induced technological progress and economic growth stops.

Because R-A theory incorporates perfect competition as a limiting, special case, it not only explains when perfect competition theory will be "close enough" to predict well, but it also subsumes, by implication, the extant predictive successes of neoclassical theory. In so doing, R-A theory preserves the cumulativeness of economic science—a desirable characteristic of any general theory of competition (Nelson 1995).

Conclusion

We thank Dickson for his insightful comments. They have contributed to explicating R-A theory's structure, foundations, and implications. As it stands now, R-A theory has been shown to

1. explain firm diversity,
2. explain differences between market-based and command economies on the dimensions of productivity, quality, and innovativeness,
3. be genuinely dynamic,
4. provide a theoretical foundation for endogenous growth models,
5. have all the requisite building blocks and attributes of a phylogenetic, nonconsummatory, evolutionary theory,
6. accommodate path dependencies,
7. incorporate perfect competition as a limiting, special case,
8. incorporate the predictive successes of neoclassical theory, and
9. preserve the cumulativeness of economic science.

The preceding notwithstanding, R-A theory is still very much a work in progress. For example, no rival other than perfect competition theory has been provided against which R-A theory can be compared on a point-by-point basis. To those who believe that perfect competition was a straw man rival and to those who believe that R-A theory is wrong, too limited, or misguided, we ask the following: Propose the structure of a rival theory, complete with its foundational propositions, against which R-A theory can be compared. Alternatively, we ask for proposals for modifications, additions, or deletions to our foundational propositions and structure. On the other hand, to those who believe that R-A theory has merit, we ask that they, like Dickson (1996), propose elaborations, extensions, and applications of R-A theory; develop its strategic and public policy implications; or conduct empirical tests. Much needs to be done.

Finally, we thank all those who have expressed strong interest in R-A theory. Not only researchers, but students of marketing, of the other business disciplines, and—yes—of economics deserve a richer theory than they are now receiving. Let us get on with developing and disseminating it.

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⁵See Hunt (1996) for a discussion of how R-A theory incorporates perfect competition.

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Marketing Literature Review.

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3. SPECIAL MARKETING APPLICATIONS

- 3.1 Industrial
- 3.2 Nonprofit, Political, and Social Causes
- 3.3 International and Comparative
- 3.4 Services

4. MARKETING RESEARCH

- 4.1 Theory and Philosophy of Science
- 4.2 Research Methodology

5. OTHER TOPICS

- 5.1 Educational and Professional Issues
- 5.2 General Marketing

1. THE MARKETING ENVIRONMENT

1.1 Consumer Behavior

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29 (Winter 1995), pp. 403–28. [Literature review, 1989 Consumer Expenditure Survey, Log-linear models, Effects, Income and race/ethnicity, Husband, Wife, Child, Single, Interactions, Assessment, Implications.] 8

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1.2 Legal, Political and Economic Issues

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The Industrial Buyer and the Robinson-Patman Act. Richard L. Pinkerton and Deborah J. Kemp, *International Journal of Purchasing and Materials Management*, 32 (Winter 1996), pp. 29–36. [Historical discussion, Provisions, Court decisions, FTC, Enforcement, Business literature review, Assessment, Implications.] 15

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1.3 Ethics and Social Responsibility

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Journal of the Academy of Marketing Science, 24 (Winter 1996), pp. 66–76. [Literature review, Data collection, Scenarios, Perceptual maps, Child-oriented television advertising issues, Deceptive messages, Host selling, Evaluative rules, Perceptual maps, Statistical analysis.] 18

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Fair Game or Fair Play? Mary J. Culnan, *Journal of Business Strategy*, 16 (November/December 1995), pp. 29–31. [Customer relations, Information technology, Surveys, Privacy concerns, Regulation, Sensitivity training, Success, Guidelines.] 21

Ethics in Salesperson Decision Making: A Synthesis of Research Approaches and an Extension of the Scenario Method. Lawrence B. Chonko, John F. Tanner, Jr., and William A. Weeks, *Journal of Personal Selling and Sales Management*, 16 (Winter 1996), pp. 35–52. [Literature review, Techniques, Stages, Identifying key ethical issues, Significant others, Create sequenced scenarios, Relevant characteristics of salesperson, Situational and organizational characteristics, Assessment, Potential research areas.] 22

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Stepping Over the Line. Julia Lawlor, *Sales and Marketing Management*, 147 (October 1995), pp. 90–92, 94, 96, 98, 101. [Sexual harassment, Salespeople, Signals, Prevention, Training, Lawsuits, Impacts, Male-female relations, Examples.] 24

2. MARKETING FUNCTIONS

2.1 Management, Planning, and Strategy

See also 3, 19, 21, 23, 65, 70, 71, 73, 79, 85, 87, 105, 113, 119, 120, 122, 124, 125, 133, 134, 135, 139, 146, 147, 149, 154, 155, 160, 165, 170, 173, 208, 209, 213, 216, 226, 229, 231

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ed, Historical, Stable, Services provided, Project components, Success, Guidelines.] 28

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Use Joint Ventures to Ease the Pain of Restructuring. Ashish Nanda and Peter J. Williamson, *Harvard Business Review*, 73 (November/December 1995), pp. 119–28. [Discussion, Business worth, Effects, Stakeholders, Commitment, Uncertainty, Buyer's goals, Negotiations, Guidelines.] 30

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A Longitudinal Study of the Impact of Market Structure, Firm Structure, Strategy, and Market Orientation Culture on Dimensions of Small-Firm Performance. Alfred M. Pelham and David T. Wilson, *Journal of the Academy of Marketing Science*, 24 (Winter 1996), pp. 27–43. [Literature review, Model presentation and comparison, Propositions, Survey, Causal relationships, Profitability, Product quality, New product success, Growth/share, Firm coordinating systems, Market competitive intensity, Statistical analysis, Managerial implications.] 36

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Capability: Strategic Tool for a Competitive Edge. Ron Ashkenas, *Journal of Business Strategy*, 16 (November/December 1995), pp. 13–15. [Business growth, Factors, Speed, Flexibility, Integration, Innovation, Boundaries, Vertical, Horizontal, External, Geographic, Success, Guidelines.] 44

Know Thy Customer: Lessons in Value. Leslie Wines, *Journal of Business Strategy*, 16 (November/December 1995), pp. 55–57. [Corporate planning, Market strategy, Priorities, Customer relations, Impacts, Value growth and value migration, Assessment.] 45

The Role of Organizational Factors in the Adoption and Sophistication of Database Marketing in the UK Financial Services Industry. Keith Fletcher, George Wright, and Caroline Desai, *Journal of Direct Marketing*, 10 (Winter 1996), pp. 10–21. [Survey, Key organizational variables, Marketing and information orientation, Availability of resources, Style of decision making, Assessment, Implications.] 46

Strategic Marketing and Communications Audits. Betsy C. Stone, *Journal of Health Care Marketing*, 15 (Winter 1995), pp. 54–56. [Discussion, Findings, Benefits, Goals, Structure, Effectiveness, Conducting the audit, Topics of exploration, Assessment, Recommendations.] 47

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The Information Revolution and Its Impact on SME Strategy: The Asia Pacific Economic Cooperative Forum as a Model. Eugene T. Bonk, *Journal of Small Business Management*, 34 (January 1996), pp. 71–77. [Trends, Roles, Globalization, Small and medium-sized companies, Market entry, Strategic alliances, Interactions, Manufacturers, Suppliers, Distributors, Networks, Assessment.] 49

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Understanding User Evaluations of Information Systems. Dale L. Goodhue, *Management Science*, 41 (December 1995), pp. 1827–44. [Literature review, Propositions, Model testing, Survey, Dimensions, Individual, Task-technology fit, Application to a particular task domain, Main and interaction effects of systems and services, Statistical analysis.] 52

Export Practices of Asian SMEs: Some Preliminary Findings. Dave Crick and Shiv Chaudhry, *Marketing Intelligence and Planning (UK)*, 13 (No. 11, 1995), pp. 13–21. [Discussion, Minority-owned small and medium-sized enterprises, Survey of managers, Attitudes, Decision making, Planning, Operational issues, Assessment, Implications, UK.] 53

A Hybrid System for Strategic Marketing Planning. Yanning Duan and Phillip Burrell, *Marketing Intelligence and Planning (UK)*, 13 (No. 11, 1995), pp. 5–12. [Literature review, Expert and decision support systems, Advantages, Model presentation, Software packages, Extension, Enhancement, Assessment.] 54

Gaining a Competitive Advantage by Analyzing Aggregate Complaints. John A. Schibrowsky and Richard S. Lapidus, *Marketing Intelligence and Planning (UK)*, 13 (No. 9, 1995), pp. 36–43. [Customer satisfaction, Data collection, Distribution, Receivers, Frequency, Type, Assessment, Managerial implications, Recommendations.] 55

Customer-Accelerated Change. William A. Band, *Marketing Management*, 4 (Winter 1995), pp. 46–59. [Corporate planning, Expectations, Value, Matrix, Internalizing, Vision, Organization strengths and weaknesses, Customer loyalty assessment, Performance indicators, Success, Examples.] 56

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2.2 Retailing

See also 89, 207

Retailers Injecting More Fun Into Stores. Candace Talmadge, *Advertising Age*, 66 (October 30, 1995), pp. 38, 40. [Trends, Competition, On-line shopping, Customer expectations, Entertainment, Lifestyle-oriented events, Community relations, Education, Advertising campaigns, Mailing lists, Examples.] 58

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Consumer Preferences for Size Description Systems of Men's and Women's Apparel. Jongsuk Chun-Yoon and Cynthia R. Jasper, *Journal of Consumer Affairs*, 29 (Winter 1995), pp. 429–41. [Literature review, Data collection, Gender, Age groups, Garment types, Consumers prefer a sizing system that features both pictograms and key body dimensions rather than one that uses key dimensions alone, Implications.] 62

Direct Marketing in UK Retailing: Rhetoric and Reality. Grainne Shields, *Journal of Direct Marketing*, 10 (Winter 1996), pp. 59–70. [Literature review, Survey, Store categories, Reasons for using direct marketing, Activities, Evaluation, Number of employees, Budgeting, Barriers, Assessment.] 63

Waiting Time Delays and Customer Satisfaction in Supermarkets. Gail Tom and Scott Lucey, *Journal of Services Marketing*, 9 (No. 5, 1995), pp. 20–29. [Literature review, Laboratory experiment, Effects, Customer attributions, Disconfirmation, Positive, Negative, Stable, Unstable, Server, Store, Statistical analysis, Managerial implications.] 64

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Strategic Alliances Among Small Retailing Firms: Empirical Evidence From the Netherlands. Will J. M. Reijnders and Theo M. M. Verhallen, *Journal of Small Business Management*, 34 (January 1996), pp. 36–45. [Discussion, Hypotheses, Survey, Comparisons, Allied, Nonallied, Outsourcing, Marketing, Professionalism, Performance, Statistical analysis.] 67

2.3 Channels of Distribution

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diated power usage, Normative and instrumental commitment, Statistical analysis.] 70

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2.4 Physical Distribution

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2.5 Pricing

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2.6 Product

See also 6, 11, 16, 31, 36, 39, 48, 50, 52, 62, 65, 90, 91, 102, 103, 105, 113, 120, 127, 130, 131, 149, 166, 189, 193, 194, 196, 201, 209, 210

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See also 58

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structs, General, Domain-specific, Deal categories, Hypotheses, Data collection, Marketplace behavior variables, Consumer expenditures, Statistical analysis, Implications.] 88

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2.8 Advertising

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lationship characteristics and atmosphere, Channel competition, Assessment.] 148

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Mediators vs. Moderators of Patient Satisfaction. Venkatapparao Mummalaneni and Pradeep Gopalakrishna, *Journal of Health Care Marketing*, 15 (Winter 1995), pp. 16–21. [Discussion, Models, Mediatonal, Moderator, Survey of patients, Effects, Sociodemographic characteristics, Delivery systems, Relationships, Direct, Indirect, Statistical analysis, Managerial implications.] 164

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4. MARKETING RESEARCH

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Book Reviews

Pop Internationalism

By Paul Krugman (Cambridge, MA: The MIT Press, 1996, 221 pages, \$22.50)

International Competition: Are We Making a Mountain Out of a Molehill?

Economic liberalization policies adopted by many developing countries have led to a rapid opening up of markets and have significantly increased the movement of money, people, goods, and services among nations. Because this trend appears to be irreversible, understanding the consequences of such internationalization is important for various constituencies—academic researchers who like to contribute to a more informed debate in scholarly and public forums; the population in general, which is daunted by uncertainty about employment and standard of living; regulatory agencies designing monetary and fiscal policies; lobbyists trying to gain government favor for certain industries over others; and politicians of all hues, those seeking to address issues of internationalism honestly, as well as others who use foreign competition as a bogeyman to draw voters away from domestic issues.

Conventional wisdom views foreign competition as having an enormous impact on U.S. economy, jobs, and standard of living. This view posits that it is necessary to devise policies and programs to make America compete better in the global arena, which leads some economists (both inside and outside the government) to argue for interventionist policies that incidentally and invariably favor certain industries over others. This conventional wisdom has the support of well-respected economists, many of whom have credentials at least as impressive as Krugman's.

Krugman's book eloquently and convincingly contributes to this debate by offering an alternative perspective. The book consists of thirteen essays, most of which previously appeared in journals such as *Foreign Affairs*, *Scientific American*, and *Harvard Business Review*. In a nutshell, Krugman challenges the conventional wisdom on the effects of foreign competition on the U.S. economy, by arguing that its role is vastly overstated, often by politicians seeking votes. The result is a sort of an intellectual fig-leaf for policies favoring certain industries. Domestic economic problems in the United States have little to do with foreign competition, and growth in developing countries does not pose a serious threat to developed nations. Krugman argues that the prevailing notion of nations as corporations competing for limited resources and markets as contributing to a win-lose scenario (e.g., U.S. jobs going to Mexico) is inappropriate in the face of hard evidence. The tendency to articulate and believe in the nation-as-corporation myth is being driven by some who have misunderstood basic economic principles.

According to Krugman, though the effects of global trade may be large in absolute terms (e.g., loss in wages, increase in unemployment), relatively speaking, they may not mean much. For example, capital flows to the developing countries have reduced wages of workers in advanced countries only by approximately

.15%—nowhere near the amount suggested by the more vocal proponents of strategic trade policies. The stakes involved as a result of global trade are of the order of a few tenths of 1% of the national income, which is nothing like the life-and-death scenarios described by some. Krugman goes on to argue that many of the United States' economic woes are caused by low national savings, low spending on research and development, and low-quality basic education. Failure to create competitive advantage is at best a contributing factor. An interesting insight he provides is that as a percentage of world output, international trade is not much bigger now than it was a century ago.

Krugman is not arguing that foreign competition does not affect the U.S. economy—merely that it simply does not do it in the way that is conventionally assumed. He says, for example, that when South Korea gets better at making cars, the U.S. economy will be affected not because the United States will lose the automobile market but because higher South Korean wages mean that U.S. customers will pay more for the pajamas and toys that they were already buying from South Korea. According to Krugman, the ultimate objective of trade is imports, not exports. The "need to export is a burden that a country must bear because its import suppliers are crass enough to demand payments" (p. 120).

The demand variations caused by technological change have been the key culprits in the rise in unemployment and the growing earnings inequality in the United States. Krugman predicts that in the long run, technological change will result in a "golden age of equality" (p. 203), because technology will ultimately reward talents that are common to all human beings rather than the superior analytical skills of a few. Although this is an interesting prediction, I tend to believe that the foremost impact of technology is the elimination of middle managers and the increase in the span of control of a few senior managers—I am not sure how it will contribute to reduction in income inequality.

Krugman has an engaging and provocative style of writing—a style that makes the reader rethink his or her assumptions and preconceived notions. At times it is hard-hitting—and he accuses some respectable people of ignoring basic facts of economics—though such bombastic language makes engaging reading and perhaps may be necessary for Krugman's view to be heard by a broader public, it has a tendency to leave a bad taste.

Why do so many people fall prey to wrong interpretations and ideas regarding international competition? Krugman says that some *pop internationalists*—"people who speak impressively about international trade while ignoring basic economics and misusing economic figure" (see book jacket)—are sophisticated and able to impress audiences that are not necessarily grounded in the fundamentals and intricacies of economics. It is a case of style winning over substance and the inability of economics professors to reach the antennae of common people.

Extant research on consumer behavior tells us that when people do not have adequate expertise to evaluate issues on their merits, they often resort to heuristics. Good writing, good articulation, and even sophistication may well serve as those heuristics. Therefore, if people want to be heard, it is not sufficient to have ideas; it is necessary to articulate them appropriately. This articulation must be tuned toward a nontechnical audience if people want to extend

the influence of their work beyond the limited audience of specialists who do research in the area.

Ironically, Krugman admits that his writing effectiveness was what enabled him to reach a broader audience. This also raises the question of whether to write for a predominantly academic and thoughtful practitioner audience (e.g., *JM* readership) or for a broader practitioner audience (e.g., *Harvard Business Review* readership). Although the latter has more reach and perhaps influence in the corporate arena and may also shape public discourse on a topic, in a majority of situations, publication in the former are valued more than those in the latter (understandably so because of the need for hard evidence as opposed to more opinionated writing).

The previous discussion has several implications for knowledge development in marketing and other business related disciplines: (1) journal editors should not only encourage good ideas, but also help authors articulate the ideas so that they will effectively reach the broader public; (2) there must be creative collaboration between those who can come up with powerful ideas and those who are powerful writers; (3) with increasing calls for professional relevance in business education and research, institutions may need to reconsider their reward-structure for faculty who publish high-impact articles in broad-based outlets.

I strongly recommend Krugman's book for anyone involved in understanding the role of internationalization on businesses and society. Krugman's forcefully argued view deserves to be understood in relation to other dominant views. The book also is a lesson on the importance of powerful writing. In the context of calls for increased cross-disciplinary research, writing for a nontechnical audience on complex matters is a skill well worth having by academics.

It must be noted that Krugman does admit that foreign competition may have an impact on domestic economy and agrees that "failure to cope with international competition can sometimes be injurious to a country's economic health" (p. 88). The issue is about the degree of impact and the appropriate explanations for it. Therefore, the opposing viewpoints do not appear to be that far apart.

My own guess is that for several reasons the jury is still out on the exact impact of international trade on domestic economies of developed countries. First, much of the new trade taking place is coming from market creation (e.g., automatic dishwashers). Therefore, everyone stands to gain, some a little bit more and some a little bit less. What happens when the situation stabilizes and the size of the pie is fixed (as in mature product categories)? In such situations, however long it takes, the notion of countries as corporations may be less untrue than it is today. In a similar vein, nobody knows what the long-term impact is going to be. The challenge is to devise appropriate forecasting tools to predict the future impacts.

Second, the effect of international exchanges must go beyond economic indicators (e.g., unemployment, wage rate), to deal with psychological and behavioral aspects as well. Krugman opines that "it is our fear of third world success rather than success itself that is the real danger to the world economy" (p. 68). Surely, these psychological factors must be accounted for. One factor that may be contributing to this psychological phenomenon is the absolute numbers (Krugman's thesis is that as a percentage they do not mean much). However, vivid anecdotes have the ability to influence public opinion and behavior more than subtle changes across the board (e.g., a recent Chinese order for Airbus rather than Boeing; a plant closing because a company moved its operations to Mexico, which resulted in a loss of 100 jobs. Compare this to the less emotional case of one person losing a job in each of 100 factories). Also, certain precursors to economic activity, for example inventions and innovations and infrastructural developments, must be examined.

Third, from a research perspective, two opposing views offer a good opportunity for a creative researcher and/or writer to propose a reconciliation. Because both camps have intellectual weight as

well as professional credentials, one fruitful avenue may be to reconcile the views using a contingency framework—perhaps following the dictum that the truth may be driven by context. For example, are there conditions under which international trade will seriously affect the domestic economy and conditions in which there will be little impact?

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The Rise and Fall of Strategic Planning

By Henry Mintzberg (New York: The Free Press, 1994, 416 pp., \$32.95)

The opportunity to read Mintzberg's latest book was an event I had anticipated for some time. Rumors of the book had circulated for several years, and my own understanding of planning has benefited considerably from his earlier works. Many pundits had opined that this would be an important book. And why not? After all, Mintzberg is widely considered a leading authority on strategy and has been recognized on numerous occasions for advancing knowledge in the discipline. Twice his articles have been selected as McKinsey award winners for the best *Harvard Business Review* article. Readers of Mintzberg's previous work will quickly recognize that this book fits as a consistent and integral component of his overall view of management, strategy, and planning.

Be forewarned, the book is not an easy read. Some stamina is required to stay through to the punch line laid out in the final two chapters. However, the determined reader will not be disappointed, because Mintzberg expands on the proper role of strategic planning (which he renames *strategic programming*). His core theme is that formal strategic planning systems should not be used to build strategies. Rather, the role of formal planning systems is to elaborate on strategies or visions that already exist and aid in their implementation. By providing analysis, facilitating strategic thinking among operating managers, and then assisting in the dissemination of strategies, planners assist the strategic planning process as catalysts promoting strategic thinking. Through *The Rise and Fall of Strategic Planning*, Mintzberg also illustrates vividly why strategic planning remains more of an art than a science and why all the popular approaches to strategic planning never provide everything needed to complete the task.

Mintzberg begins by discussing the relationship between planning and strategy. To illustrate the perspective, he discusses what strategic planning is supposed to be and uses these points to dissect the basic models developed since the advent of formal business planning in the early 1960s. Be sure to not miss the section, "A Missing Detail" (pp. 66–67), in which Mintzberg points out a surprising omission of all formal strategic planning models—the process of formulating the strategy itself¹

Chapter 3 compiles evidence illustrating the dismal results of strategic planning across all types of organizations, from business to government. This litany of failures is capped by a section at the end of the chapter that chronicles the typical responses given when planners are faced with explaining planning's poor results. This section forms the basis for Chapter 4, a discussion on real pitfalls and dilemmas that plague planning. These are the core problems stemming from issues of commitment, change, politics, and control.

The heart of the book is Chapters 5 and 6. In the former, the problems inherent in strategic planning are laid bare. The basic message is that if a marketer cannot forecast accurately, he or she should not use the prevailing "predict and prepare" approach. In the latter, which is the final chapter of the book, Mintzberg presents a prescription for the roles and expectations of planning systems. He discusses the dilemma posed by the necessity of coupling analysis and intuition and offers suggestions for managing the dilemma.

He then presents his view of the real role of formal planning. He makes the case that organizations engage in formal planning to program strategies on which the organization has *already* decided. The real value of formal planning, according to Mintzberg, is in acting as a vehicle for the elaboration and operationalization of strategies—more of the what is done to achieve the core strategy and how is it done. Mintzberg uses the word *programming* to apply to what is commonly thought of as the process of formal strategic planning. This term provides a valid and worthwhile distinction that guides the reader more easily to the proper roles and expectations for formal planning systems.

The book does not present a new theme. The notion that a strategic planning system—codified, rigorously reductive in its analytic form, hierarchically formal, and run by planners—often fails is not a novel concept to most people who have studied or practiced the craft of planning. The real value of this work lies in Mintzberg's argument for the proper role of planners. They should be viewed as analysts sanctioned to mine the internal and external environment for the underlying patterns critical to the future success of an enterprise. In addition, the planners proper role is in communicating and facilitating the implementation of the strategy.

At 416 pages, the book might seem to be an encyclopedia of planning. However this is not the case. *The Rise and Fall of Strategic Planning* is far from complete in its accounting of the literature on strategy. Little mention is made of even traditional contingency typologies focusing on diversification or product market distinctions such as those growing from the foundations laid by Miles and Snow (1978) or Porter (1980). In Chapter 6, Mintzberg briefly mentions an explanation of and short discussion on the positioning school of planning. An expansion of this area would be of keen interest to those focusing on marketing, in which the concern centers more on business unit and marketing program level planning. Mintzberg's notion of positioning is somewhat broader than the concept most commonly utilized in marketing. He uses the term *positioning school* to identify planning approaches that focus first on the external environment. More of his perspective on this approach to planning, as well as further discussion on Porter's (1980) five-forces update of industrial economics, is promised in a future work.

This book is not about nor does it mention the many important concepts that have advanced marketers' notion of how to develop strategies. Mintzberg's central underlying theme is that plans and planners are not or should not be the sole repository of the strategy development function. However his title, *The Rise and Fall of Strategic Planning*, leads the reader to believe that strategy, its development, and its link to structure and performance are all key components of the material presented.

Mintzberg fails to address many important contributions made to the strategy literature that have enriched the notion of the dimensionality and complexity of the domain of strategy. For example, little mention is made of concepts such as core competencies; a focus on resources, speed, or flexibility; or notions of incorporating technology and manufacturing issues. Neither does he discuss the emerging paradigm of relationship marketing, which considers when it is better to seek cooperation and avoid competition or resort to the strategic use of hybrid structural forms, such as joint ventures, and various types of alliances to help operationalize the potential strategic advantages to be gained from core competencies, speed, and so on.

Additionally, it is troubling that for all the rhetoric in business about dismantling the functional silos in academia, little progress shows here. There are over 300 references in the text, but only a few citations of work by those associated with marketing, such as Kotler and Singh (1981). The work of marketing-oriented scholars such as Aaker, Day, and numerous others are not mentioned. One

section of Chapter 5 considers the impact on planning of (1960) classic article on marketing myopia. But what of recent thinking, such as the process orientation Day (1994) speaks of in his work on market-driven organizations, which was published several years ago by the Marketing Science Institute and again in 1994 in his award-winning article in the *Journal of Marketing*? It should be interesting to gain Mintzberg's perspective on these contributions to the notion of strategic planning, as well.

Maybe it was the title, *The Rise and Fall of Strategic Planning* that was misleading. How naturally it brings to mind comparisons of the grandest scale. *The Rise and Fall of the Roman Empire* and *The Rise and Fall of the Third Reich* are comprehensive works with far-reaching impact. Mintzberg's book is an important effort for better understanding an important topic. A more revealing but less grandiose title would be *The Role of Plans and Planners*. If, for promotional value, a grander title was believed to be required, then maybe *The Rise and Fall of Strategic Planning: A Trilogy, Act Two: The Role of Plans and Planners* would have been more appropriate. This is after all a sequel to his earlier work. Readers of those earlier works will recognize numerous conceptual frameworks, including his ten schools of thought on strategy formation from his (1990) work, "Strategy Formation: Schools of Thought."

Who should read this book? Everyone in business; however, managers may not be willing to wade through the 416 pages, most of which is not smooth engaging reading. The length is attributable to Mintzberg's compulsion in proving and repeating his key points too many times and in too many ways. Once or twice is enough. Mintzberg himself says the book would not have been accepted before most managers and academics began to recognize the fallibility of strategic planning. If so, why is there the necessity of bludgeoning the reader into submission?

On the other hand, *The Rise and Fall of Strategic Planning* does an excellent job of explaining what is wrong with formal strategic planning systems and what value plans and planners bring to an organization. For those formally trained and primarily occupied with studying marketing literature, this book adds a great deal to the understanding of what planning can and cannot be expected to provide in targeting markets and implementing positioning and program strategies from product plans to pricing initiatives. If a person is a manager or academic whose focus is outside the realm of planning and strategy, read Mintzberg's (1994) *Harvard Business Review* article of the same title. If a person is a planner or studies planning, by all means buy this book. Mintzberg makes the reader richer for his work once again.

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